2005 DECS Equipment Survey

(Project 05-16)

(10/05)

2005 DECS Equipment Survey (Project 05-16) (10/05)

The objective of this survey was to compile data on dental equipment being used by federal service dental facilities and to ascertain user satisfaction with this equipment. A *Year 2005 Federal Services Equipment Survey* was mailed to Dental Commanders of Federal Dental Service facilities (i.e., Air Force, Army, Navy, Coast Guard, VA, Public Health, Prison System) in June of 2005. The commanders assigned the task of completing specific portions of the survey to the individual(s) who had the most knowledge and experience with that category of equipment. Responses were received from 274 of 762 facilities for a response rate of 36%. DECS completed a similar survey in 2000.

The following equipment areas were surveyed this year and in the year 2000: dental chairs, dental units, dental unit operating lights, intraoral x-ray units, panoramic x-ray units, automatic x-ray processors, curing lights, high-speed handpieces, low-speed handpieces, triturators, and steam sterilizers. In 2005 the following categories were added: ultrasonic scalers, instrument washers/disinfectors, surgical handpieces, digital radiography, rotary endodontic handpieces, compressors, and vacuum pumps. Charts, graphs, and short narratives are provided to summarize the results for each equipment category in the survey. The graphs depict Market Share by Company, Market Share by Model, User Satisfaction, Meets User Needs, and whether or not they would Buy Again. Calculations for market share were based on total reported number of units in the federal dental services inventory.

In some instances, survey results are on models that are no longer being manufactured or are being sold by other companies. This information is still useful since it provides feedback on the manufacturer as well as the product, and it may help consumers in making decisions about when, and if, an item should be replaced. Many of the equipment items in this survey have been evaluated by DECS.

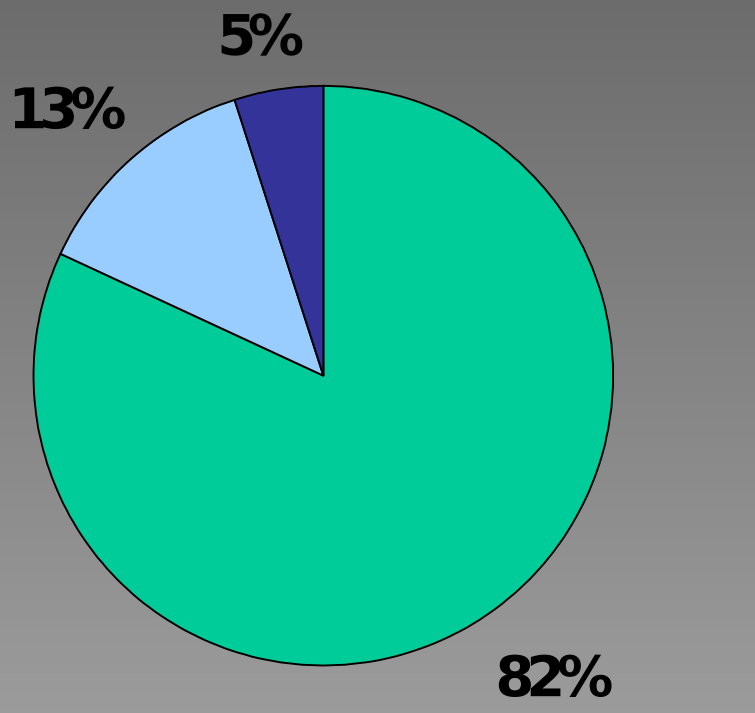
Each piece of equipment discussed in the survey is given a "Consumer Satisfaction Score." Respondents were asked to rate their level of satisfaction with the item of equipment based on the following scale: Very high (+2), High (+1), Average (0), Low (-1), Very low (-2). They were asked to rate whether the item of equipment met their needs based on the following scale: Strongly Agree (+2), Agree (+1), Average (0), Low (-1), Very Low (-2). Mean scores for *Meets User Needs* and *User Satisfaction* were combined to determine the Consumer Satisfaction Score. The highest possible overall Consumer Satisfaction Score that an item could have is +2.0 with the lowest being -2.0. Since purchase price and age of equipment were not factored into this survey, small differences between Consumer Satisfaction Scores may be considered insignificant.

Dental Chairs

A-dec has the largest market share (82%), followed by DentalEZ (13%), and Pelton and Crane (1%). The most prevalent models are the A-dec Cascade 1040 (37%), A-dec Decade 1021 (24%), Dentate E3000(6%), and the A-dec Priority 1005 (3%). The A-dec Priority was discontinued in the 1990s and the A-dec Decade was discontinued in 2004. Today, A-dec's main line consists of the Cascade 1040 and the recently introduced A-dec 511. The Cascade was reported to be reliable, ergonomic, and overall well-designed. An infrequently occurring negative comment was a lack of patient arm support. DentalEZ no longer sells the E3000 or AXCS which were the most prevalent Dental EZ chairs in the inventory. Overall satisfaction with reliability was lower with the less expensive DentalEZ chairs than with A-dec. There was not enough data on the recently introduced models (A-dec 511 and DentalEZ Silhouette / JV Generation) to make meaningful comparisons. The consumer satisfaction scores were A-dec Decade 1021 (+1.09), A-dec Cascade 1040 (+0.97), A-dec Priority (+0.76), and DentalEZ E3000 (+0.18).

Market Share by Company

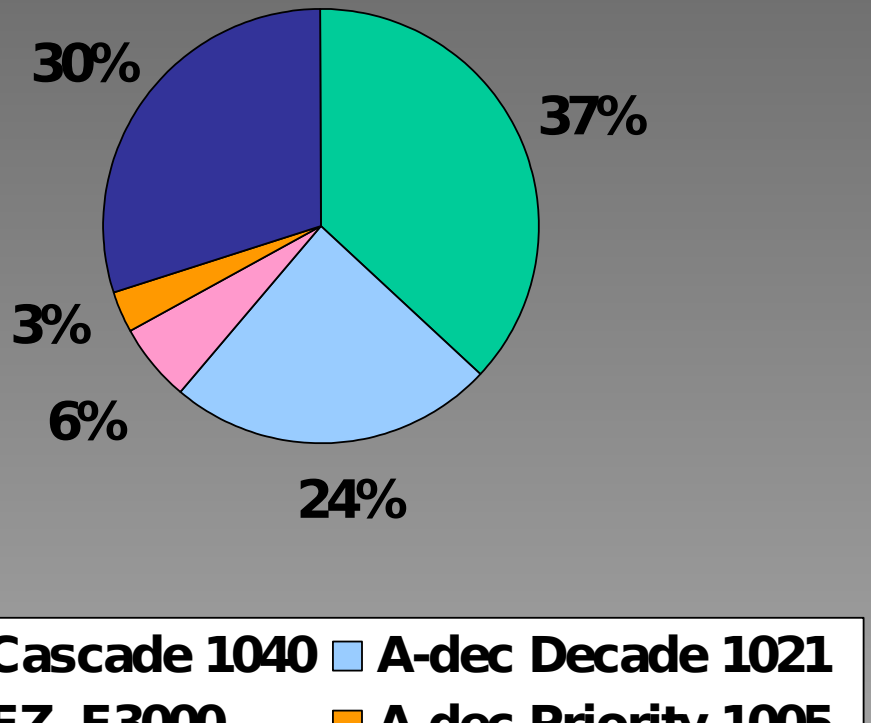
Dental Chairs



Source: USAF DECS

Market Share by Model

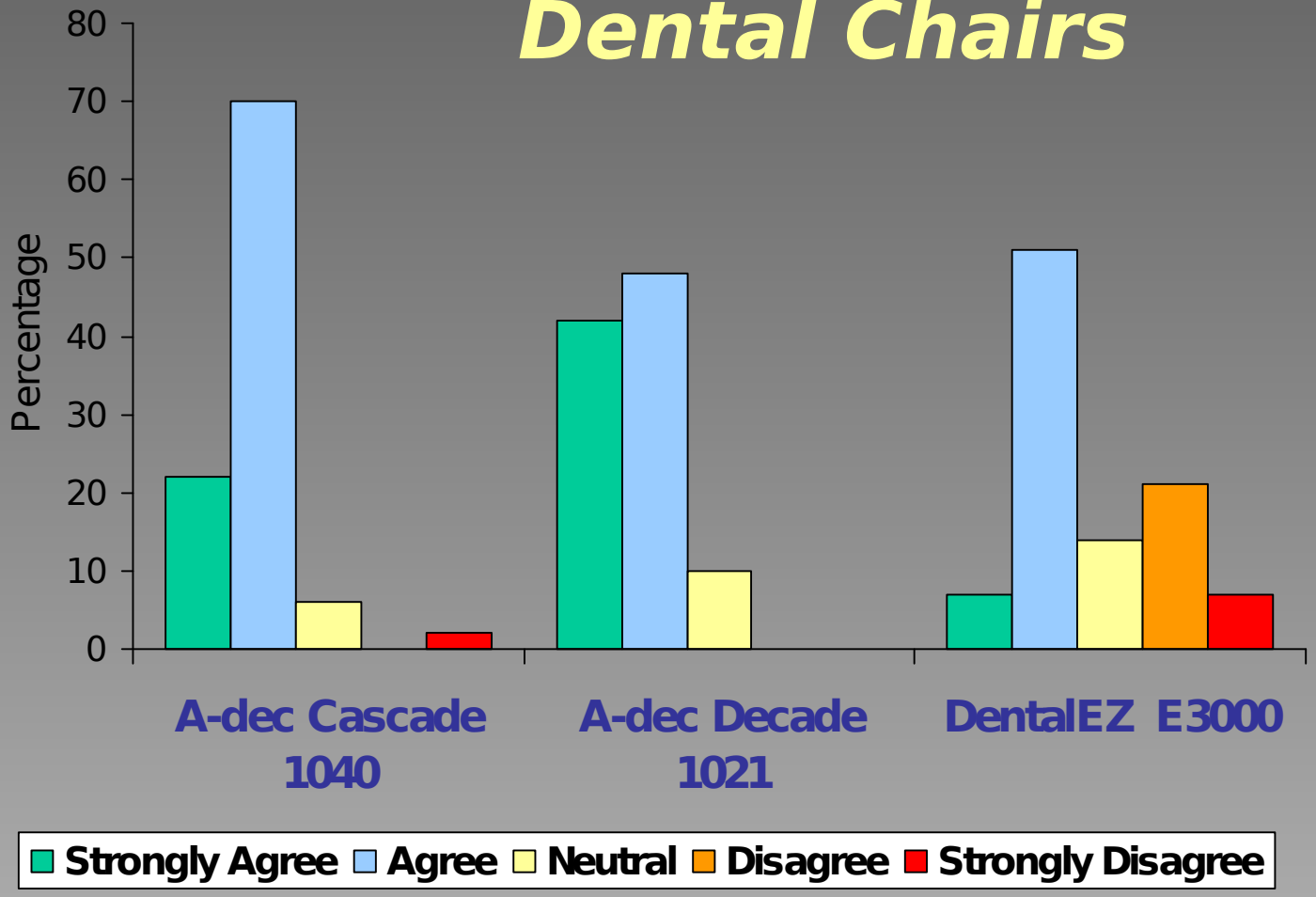
Dental Chairs



Source: USAF DECS

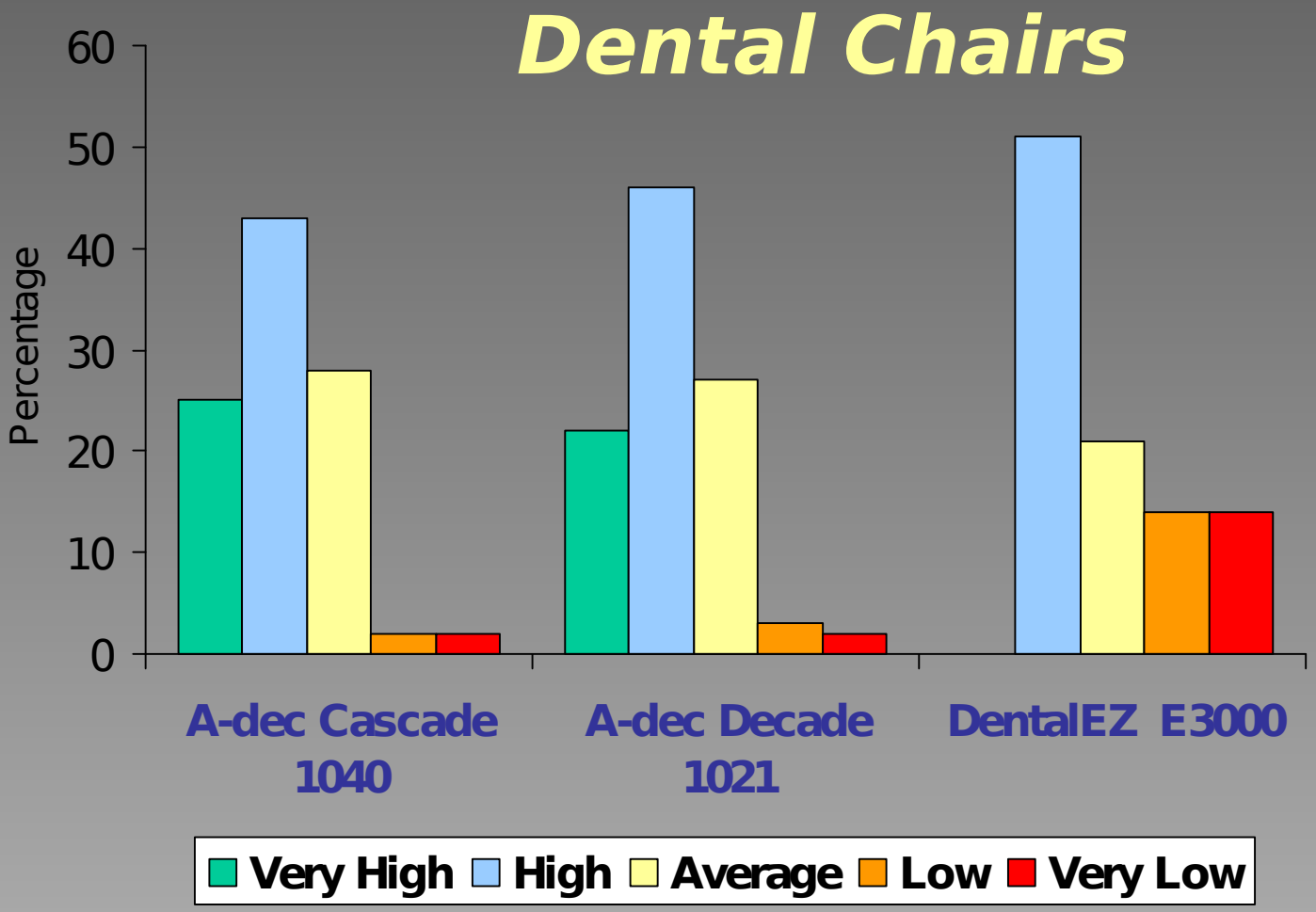
Meets User Needs

Dental Chairs



Source: USAF DECS

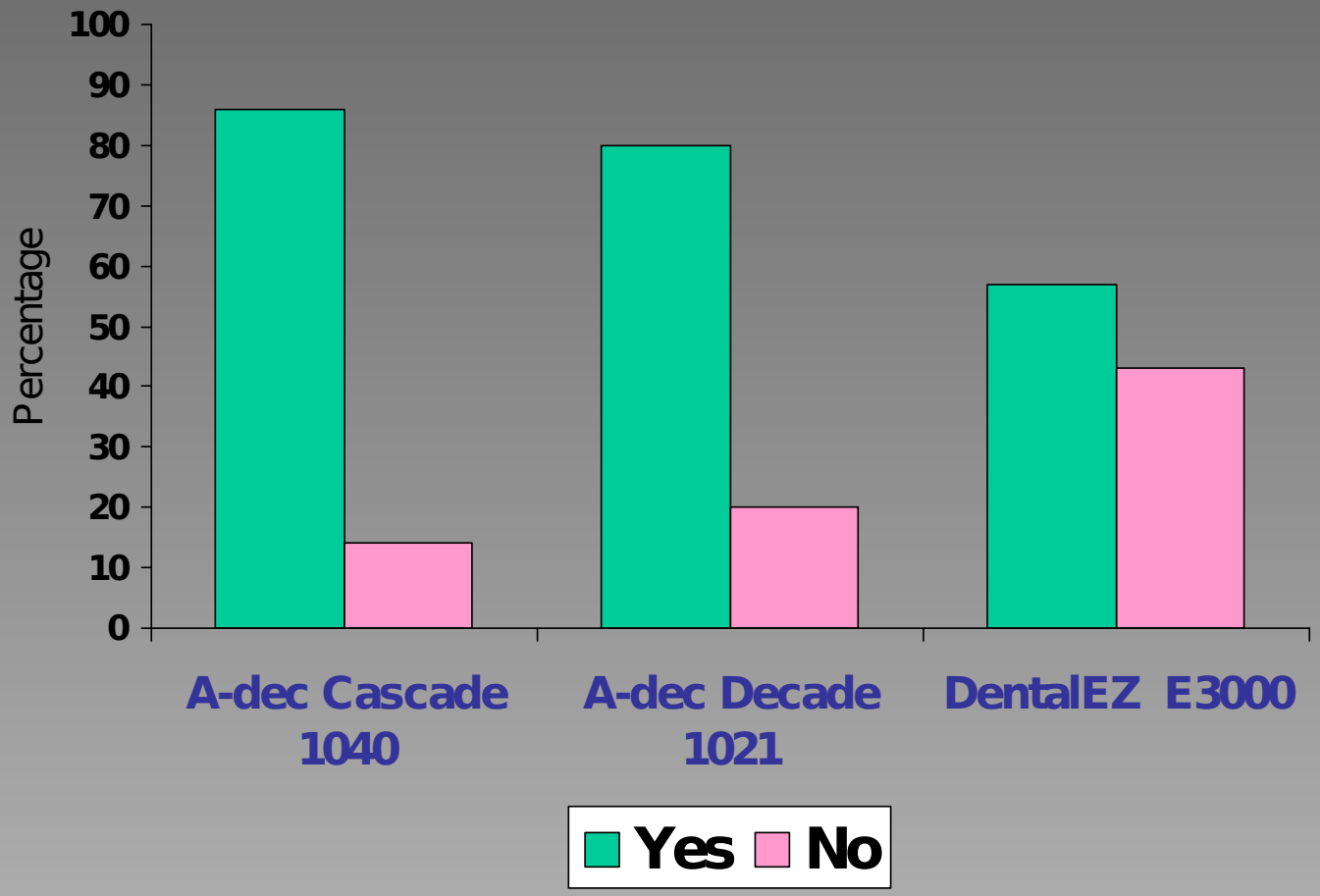
User Satisfaction



Source: USAF DECS

Buy Again?

Dental Chairs



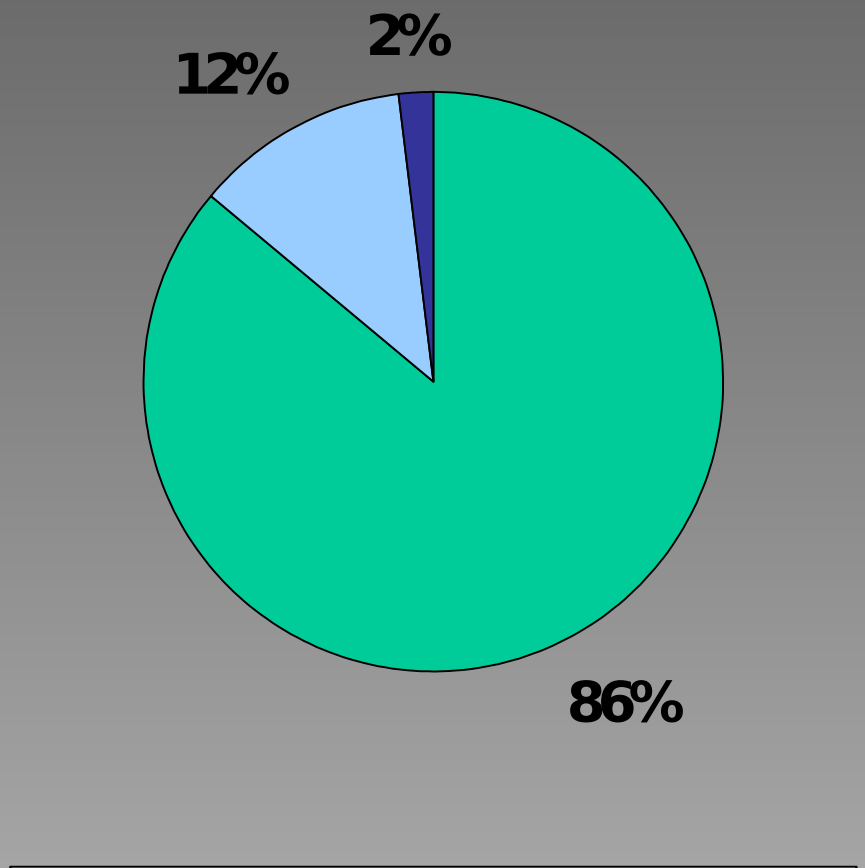
Source: USAF DECS

Dental Delivery Units

A-dec has the largest market share (86%), followed by DentalEZ (12%). The most popular models are the A-dec 2122 Radius Traditional (32%), DentalEZ AS3000 (7%), A-dec 2132 Radius Continental (4%), and A-dec 2141 Duo Unit Basic Traditional (4%). The percentages for the specific A-dec models is probably higher than stated, in that numerous survey responders were not able to identify the specific A-dec model. Comments were mostly positive regarding the A-dec Radius (left-right convertible chair-mounted) system. They said it was well-designed, functional, reliable, but had occasional water leaks. There were very few negative comments on the Continental (Buggy-whip) design of the A-dec 2132 unit. Comments on the less-expensive DentalEZ AS3000 were that it is a good basic unit, but has frequent malfunctions to include water leaks and mechanical breakages. When asked if they would purchase the same dental delivery unit again, 79% of A-dec owners and 58% of DentalEZ owners answered “Yes”. The consumer satisfaction scores were A-dec 2132 (+1.36), A-dec 2141 (+0.83), A-dec 2122 (+0.80) and DentalEZ AS3000 (+0.07).

Market Share by Company

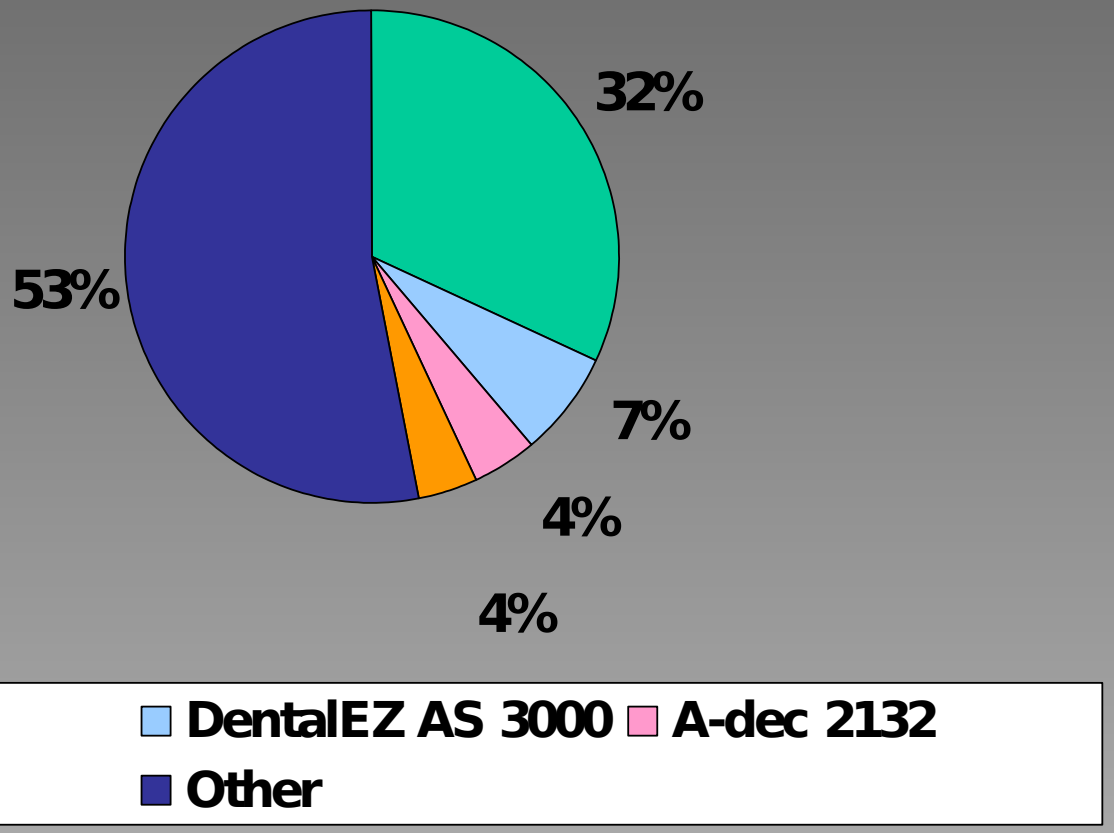
Dental Delivery Units



Source: USAF DECS

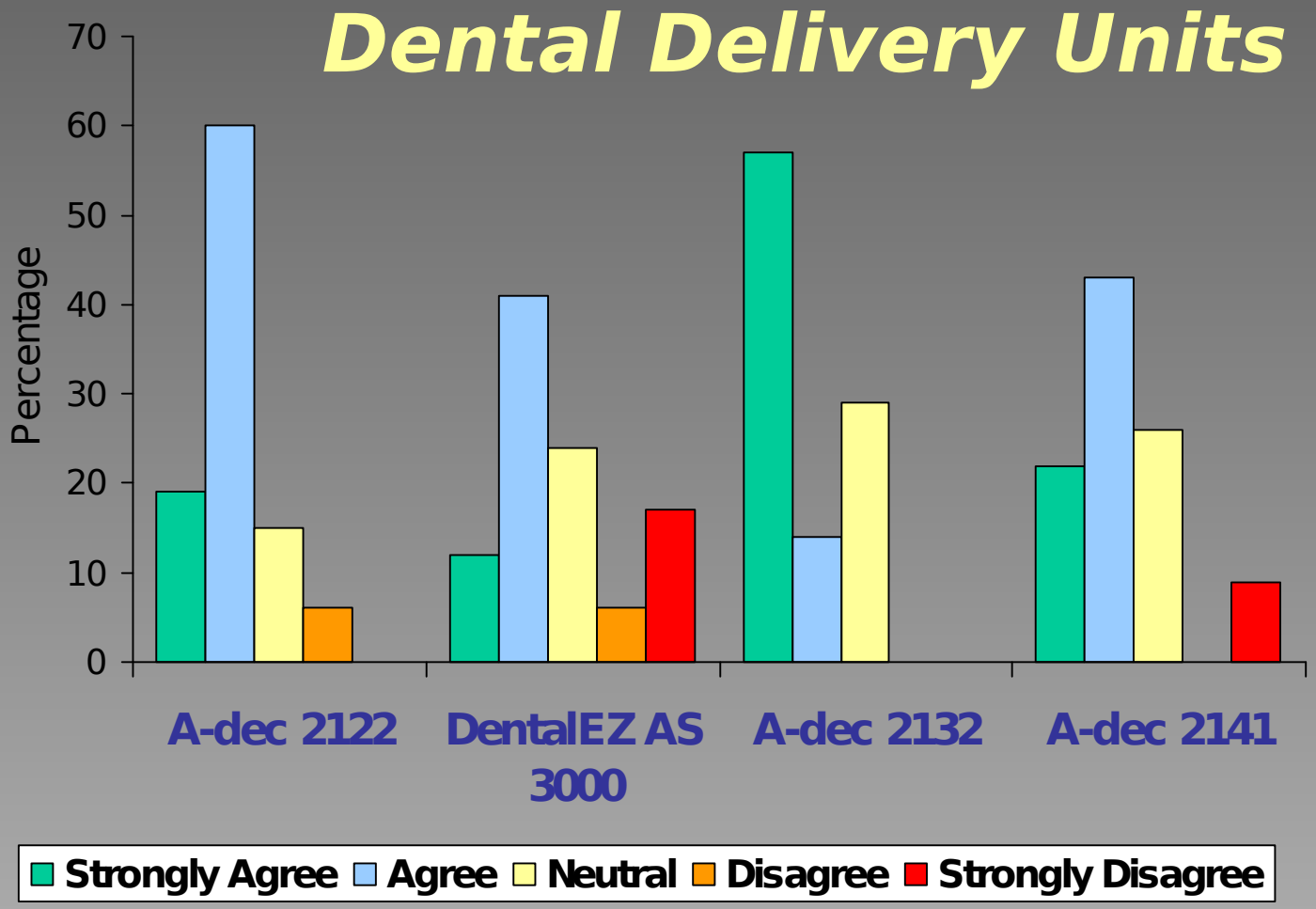
Market Share by Model

Dental Delivery Units



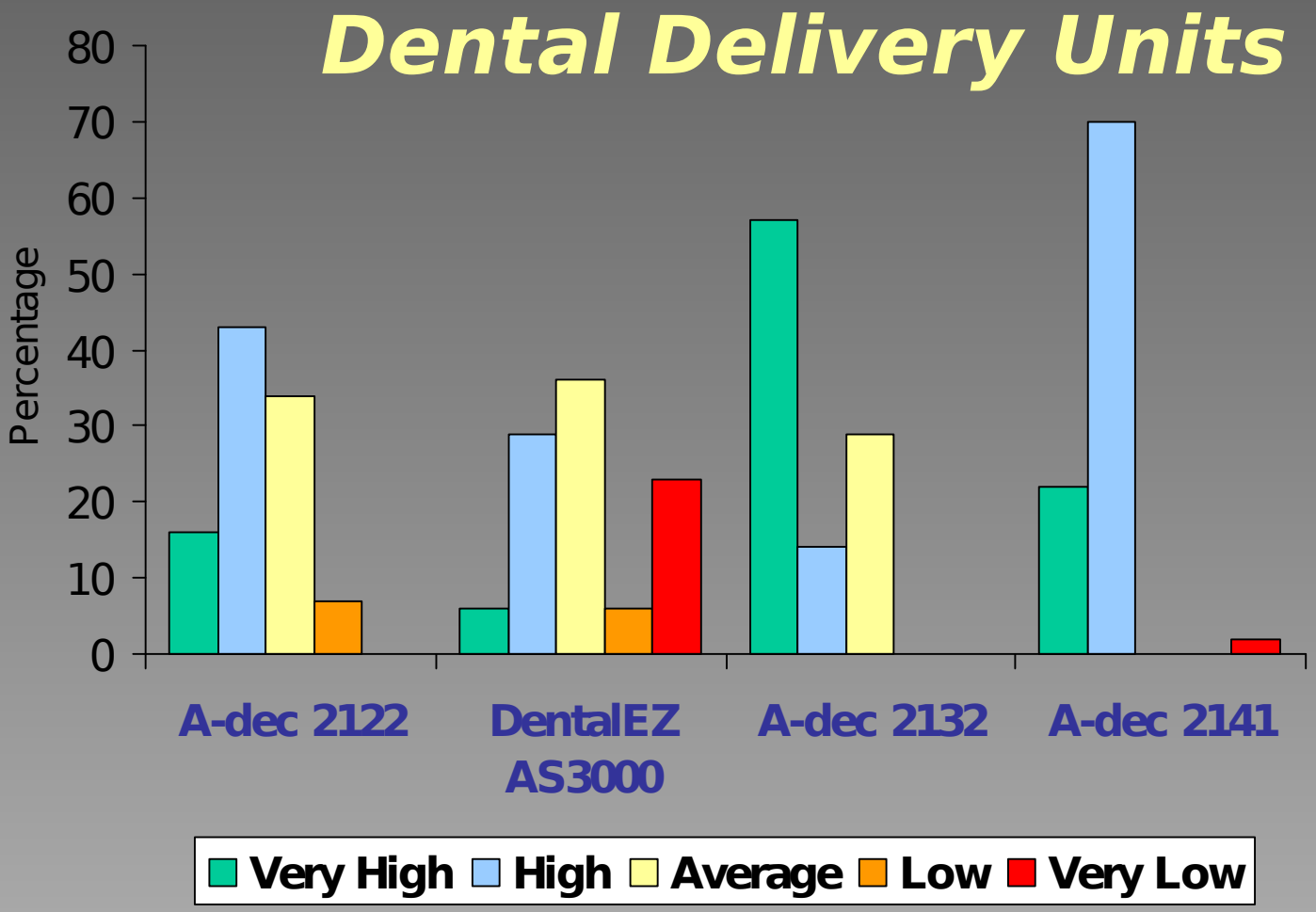
Source: USAF DECS

Meets User Needs



Source: USAF DECS

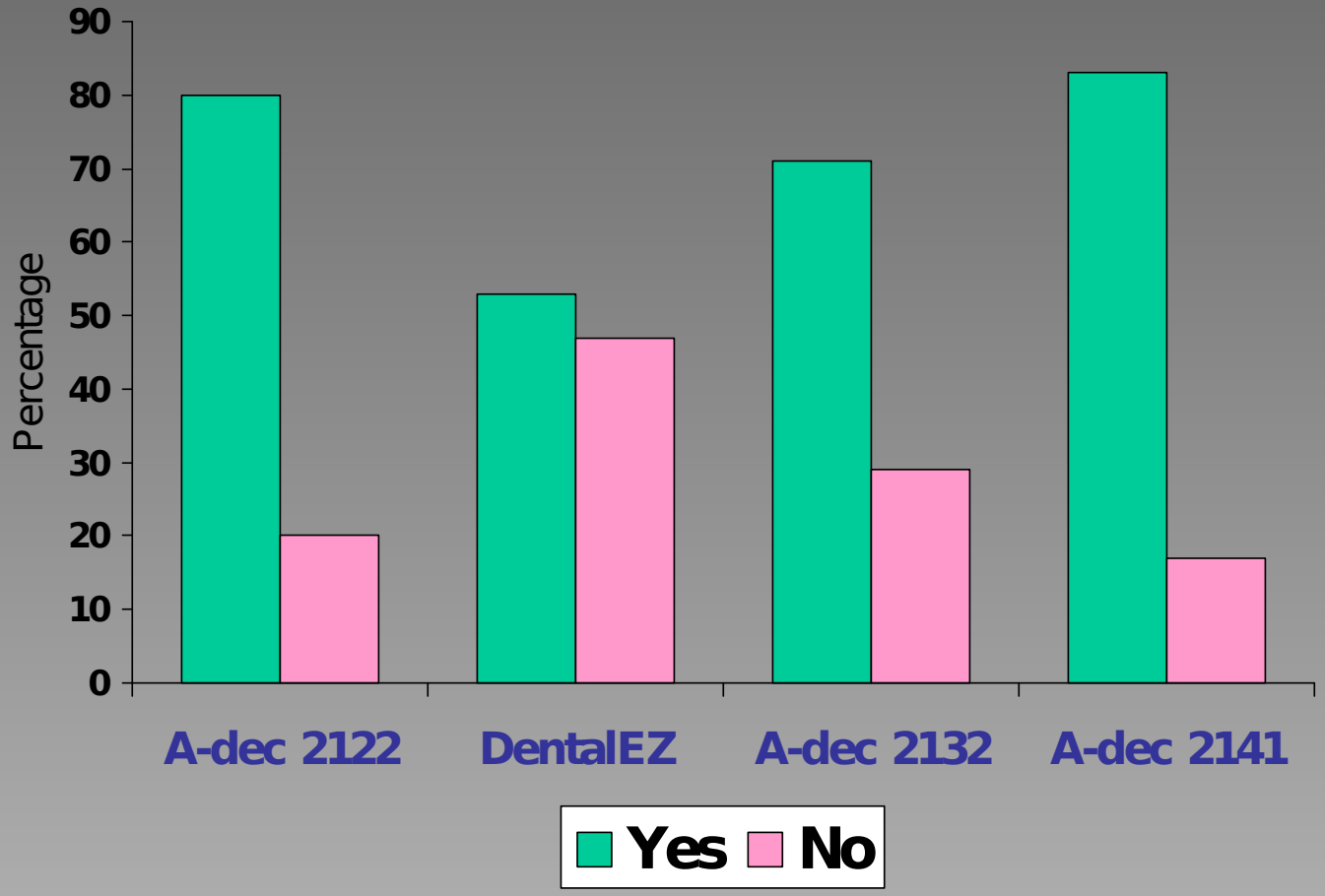
User Satisfaction



Source: USAF DECS

Buy Model Again?

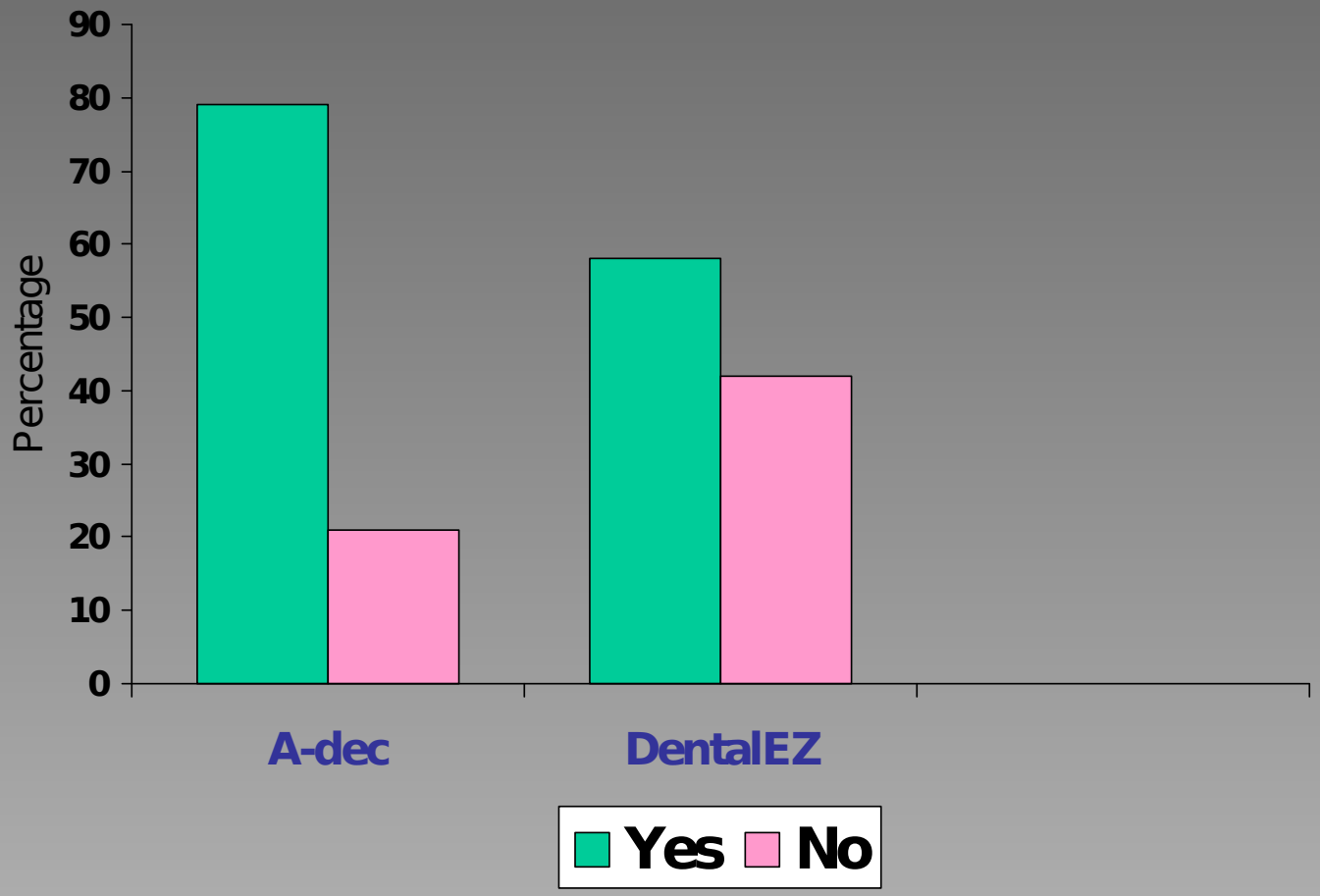
Dental Delivery Units



Source: USAF DECS

Buy From Company Again?

Dental Delivery Units



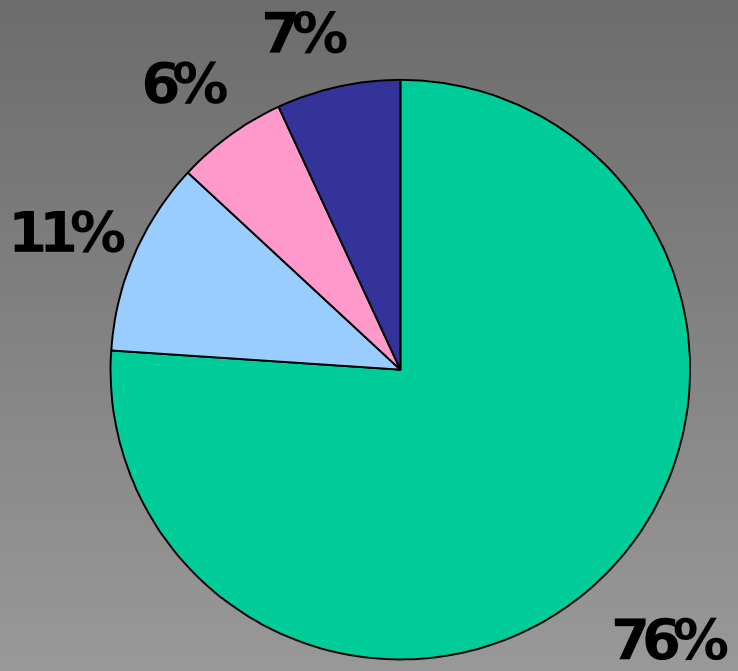
Source: USAF DECS

Dental Unit Lights

A-dec has the largest market share (76%), followed by Pelton and Crane (11%), and Dental EZ (6%). The most prevalent models were the A-dec 6300 (76%), Pelton & Crane Light Fantastic II (9%), and the DentalEZ AXCS (3%). The A-dec 6300 was praised for its reliability, durability, intensity, and ease of adjustment, with some negative comments on limited durability of the plastic light cover and drifting of lights, possibly related to chair-mounting. Comments for the Pelton & Crane LFT II were mostly positive. The consumer satisfaction scores were A-dec 6300 (+1.03), Pelton & Crane LFT II (+0.87), and DentalEZ AXCS (+0.50).

Market Share by Company

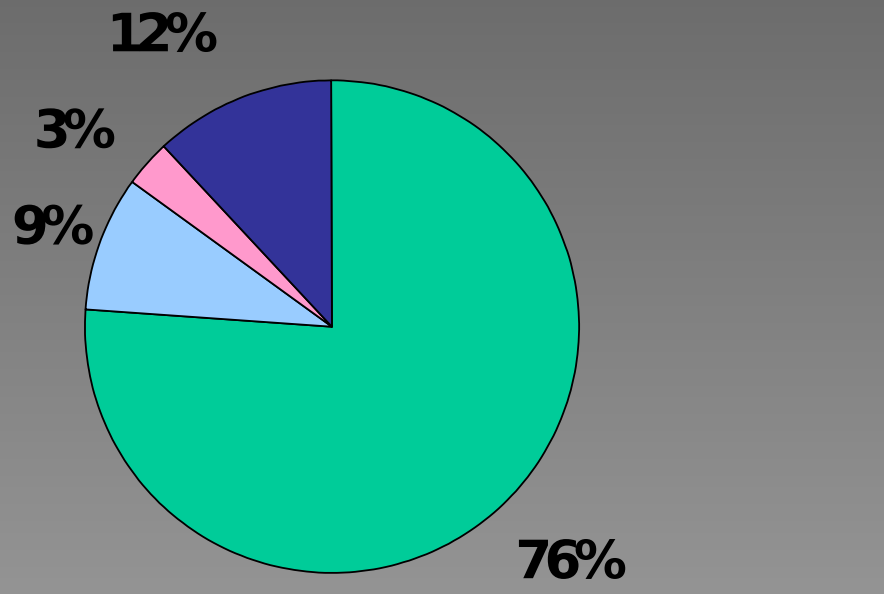
Dental Unit Lights



Source: USAF DECS

Market Share by Model

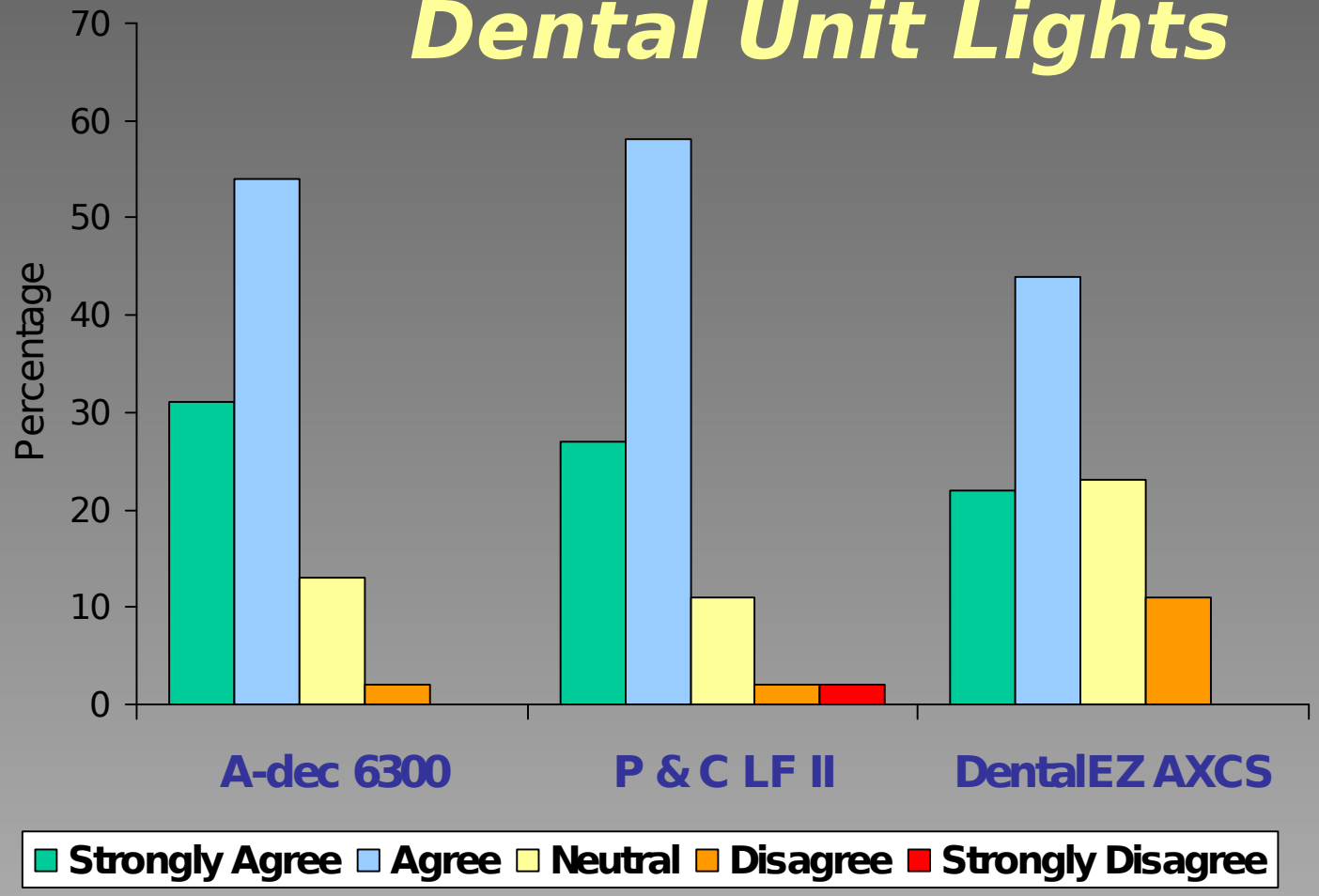
Dental Unit Lights



Source: USAF DECS

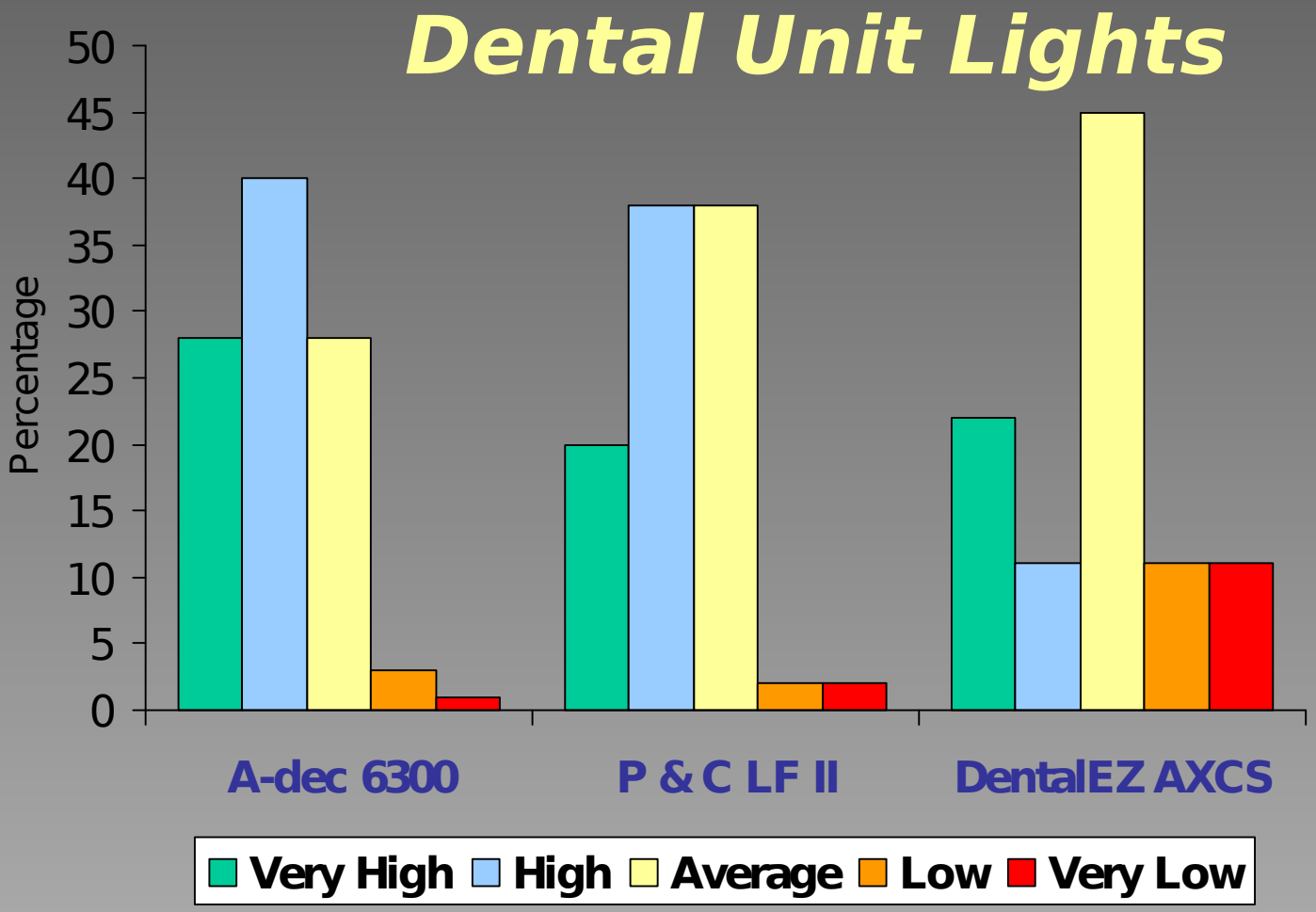
Meets User Needs

Dental Unit Lights



Source: USAF DECS

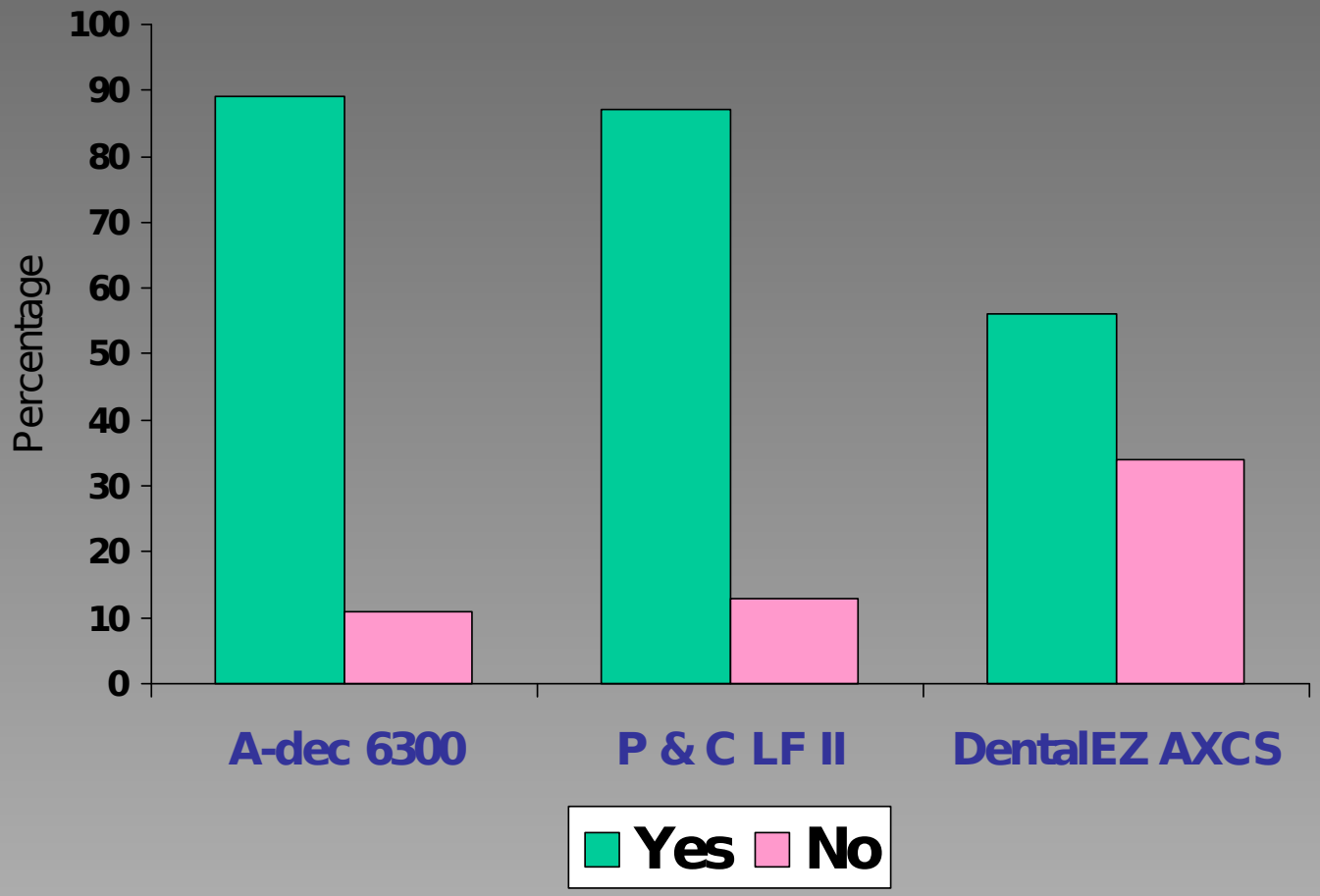
User Satisfaction



Source: USAF DECS

Buy Again?

Dental Unit Lights



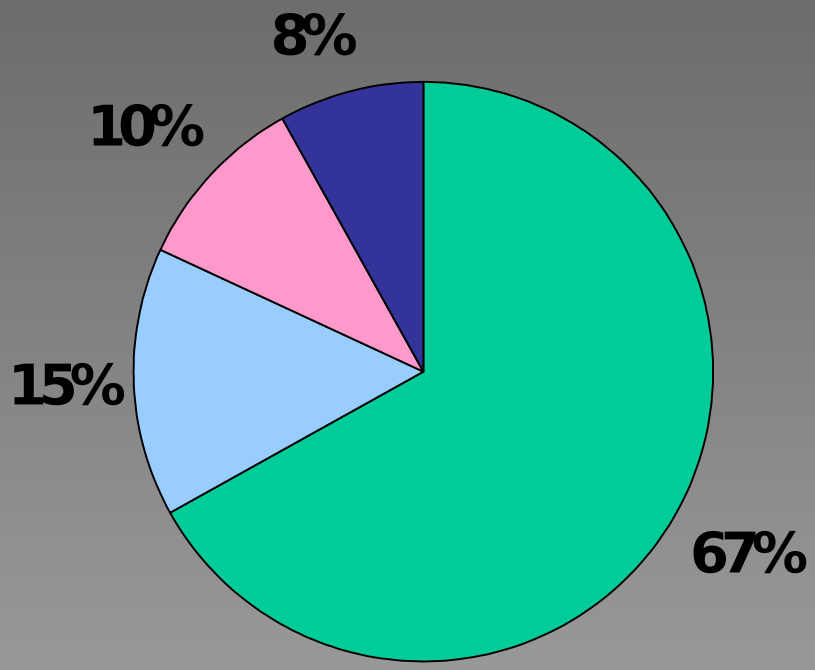
Source: USAF DECS

Intraoral X-Ray Units

Gendex has the largest market share (67%), followed by Sirona (15%), and Planmeca (10%). The most popular models are the Gendex 770 (31%), Gendex 1000 (13%), Gendex 765 (9%), and Planmeca Intra (9%). The Gendex 765 and Planmeca Intra are DC units and the Gendex 1000 and 770 are AC units. Most written comments on the Gendex and Planmeca units were positive, citing above average reliability and good manufacturer technical support. The Gendex 765 was preferred over the Gendex 1000 due to its lighter weight. The consumer satisfaction scores were Planmeca Intra (+1.36), Gendex 765 (+1.34), Gendex 770 (+1.18), Gendex 1000 (+1.06).

Market Share by Company

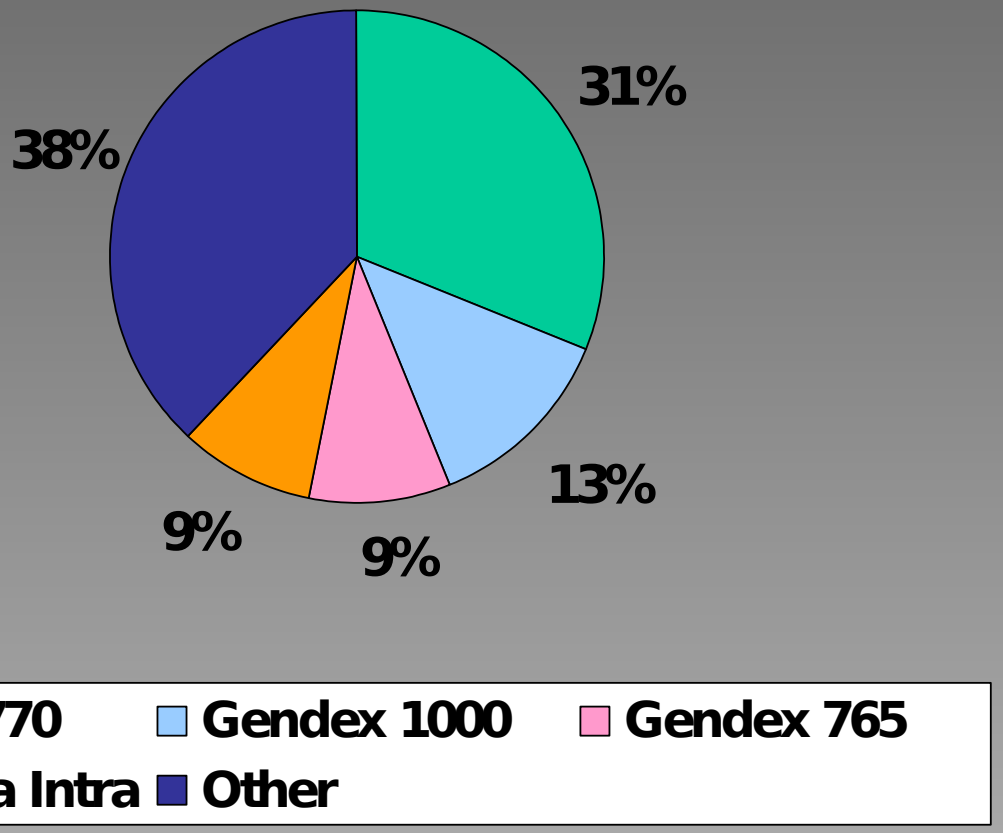
Intraoral X-ray Units



Source: USAF DECS

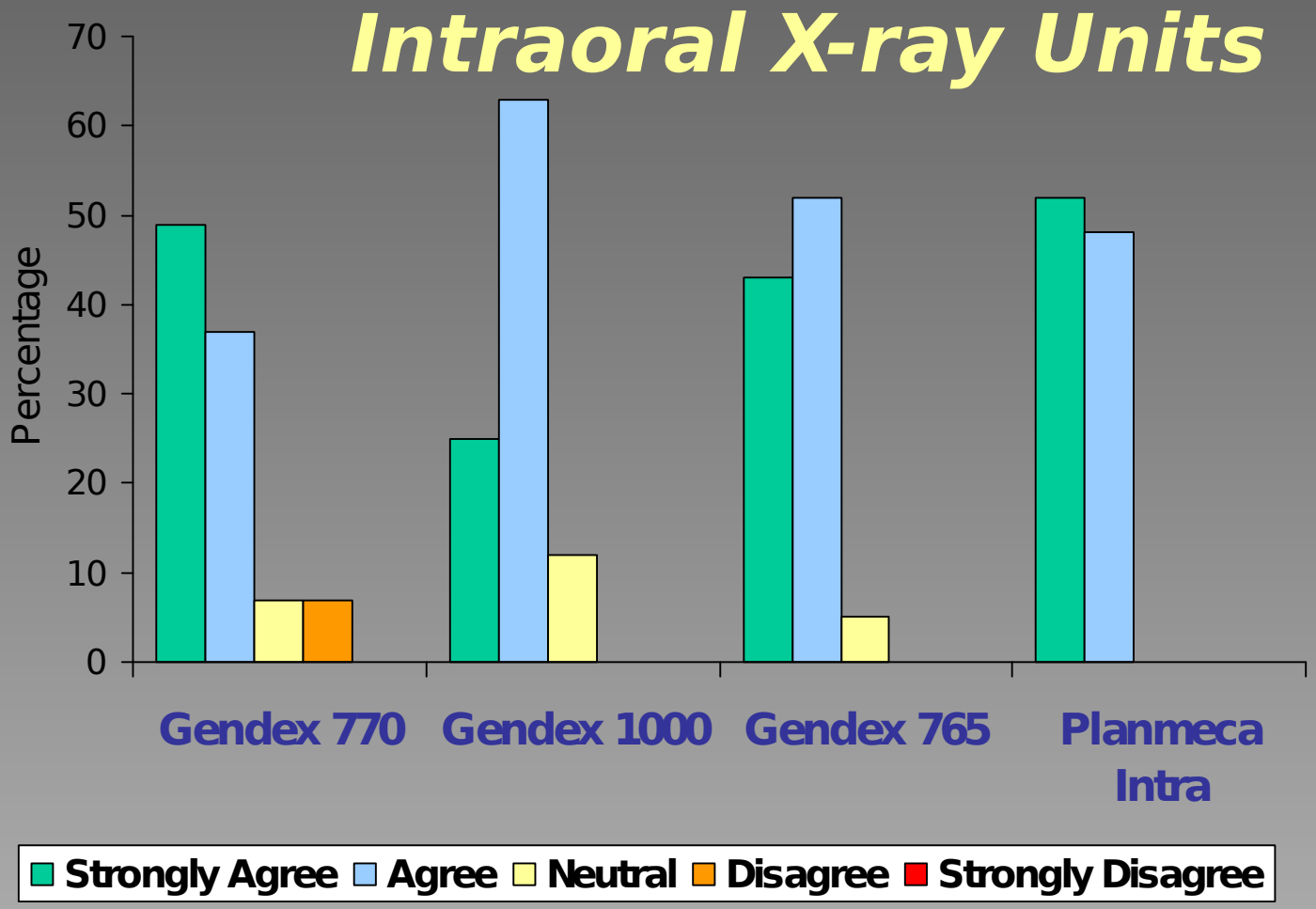
Market Share by Model

Intraoral X-ray Units



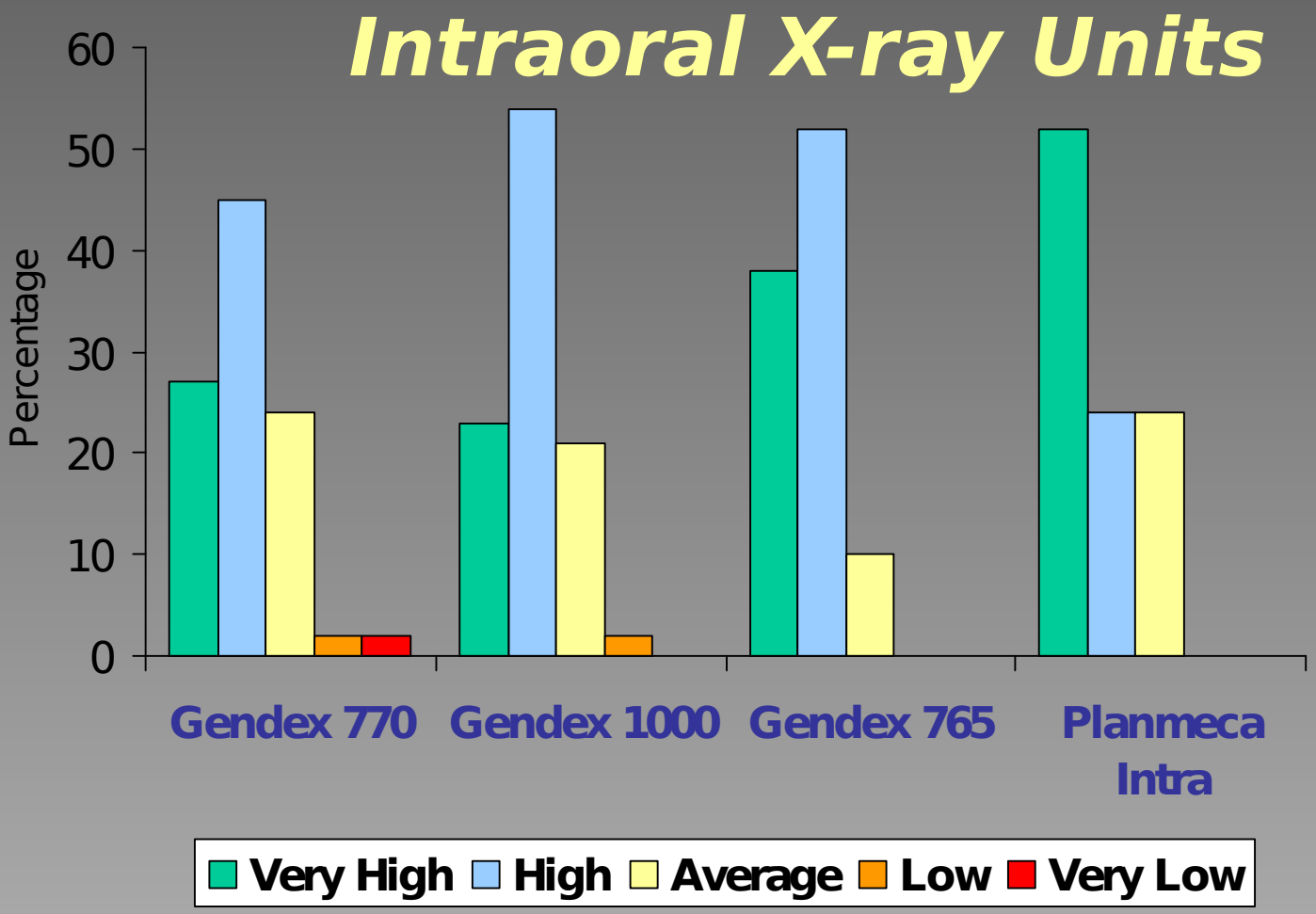
Source: USAF DECS

Meets User Needs



Source: USAF DECS

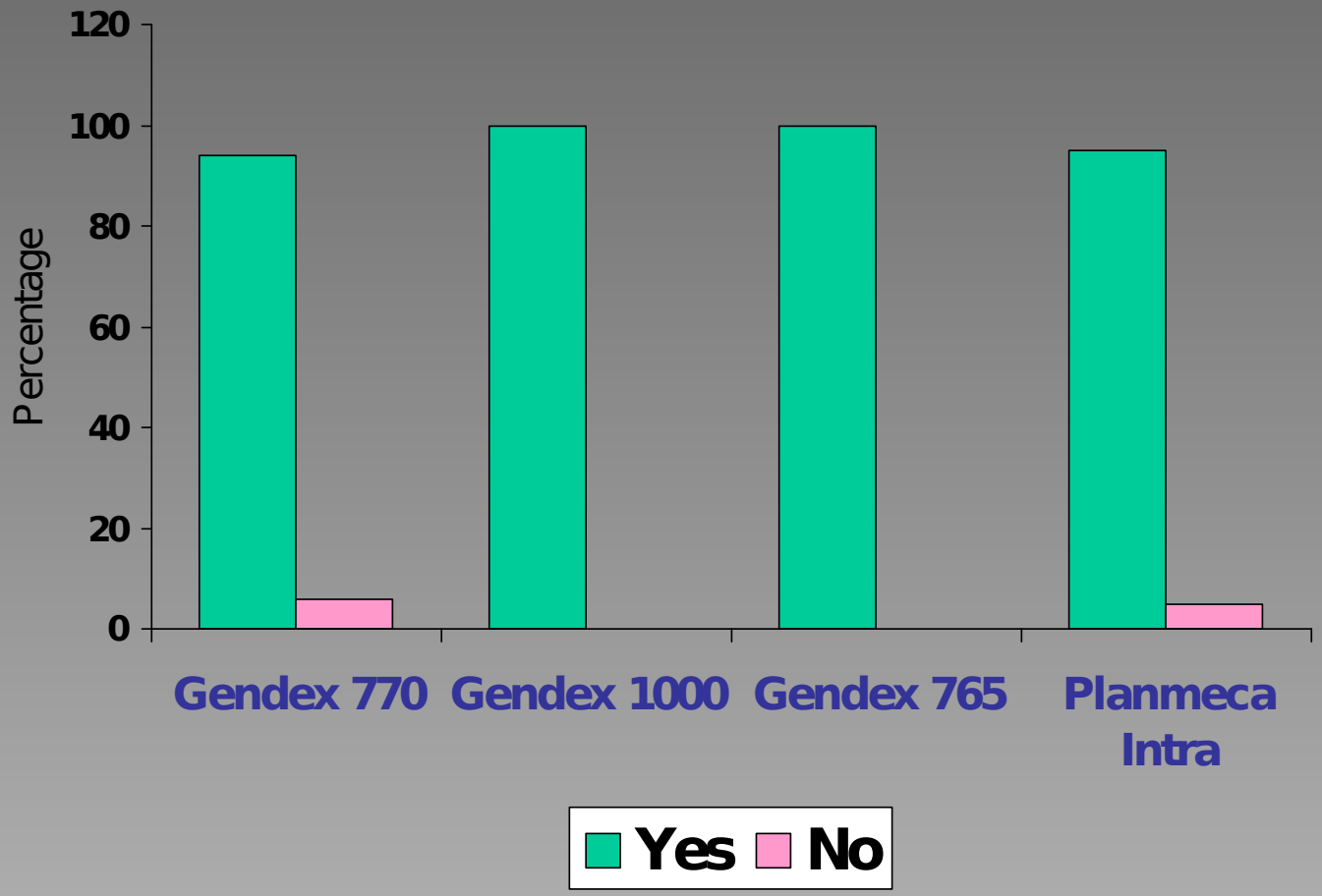
User Satisfaction



Source: USAF DECS

Buy Again?

Intraoral X-ray Units

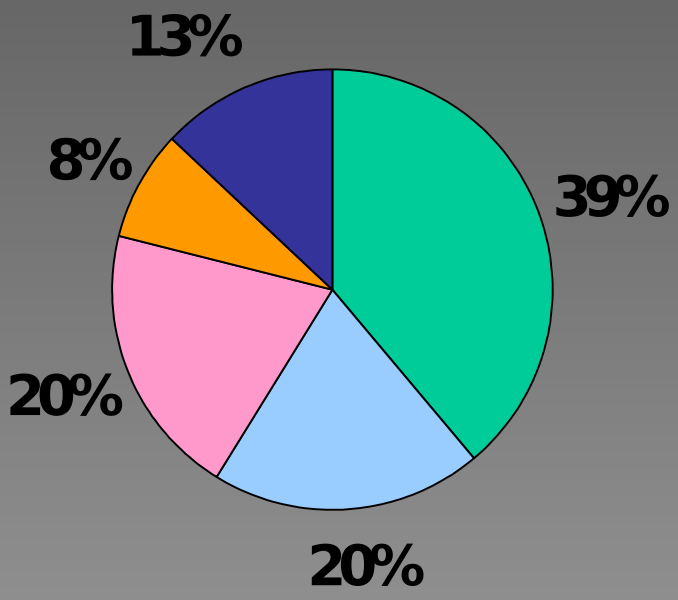


Source: USAF DECS

Gendex has the largest market share (39%), followed by Planmeca (20%), Sirona/ Siemens (20%), and Instrumentarium-Imaging (8%). The most prevalent models are the Gendex GXPan (27%), Planmeca 2002 CC (13%), Sirona /Siemens Orthophos (8%), and Instrumentarium-Imaging OP 100 (7%). Written comments on the Planmeca PM 2002 CC, Instrumentarium Imaging OP 100 and Siemens Orthophos were mostly positive. Although Gendex was cited for good technical support, the GX-Pan appeared to have a slightly higher malfunction rate early in its expected life. The consumer satisfaction scores for panoramic x-ray units were Planmeca PM 2002 CC (+1.25) , Instrumentarium Imaging OP 100 (+1.00), Siemens Orthophos (+0.74), and the Gendex GX-Pan (+0.64).

Market Share by Company

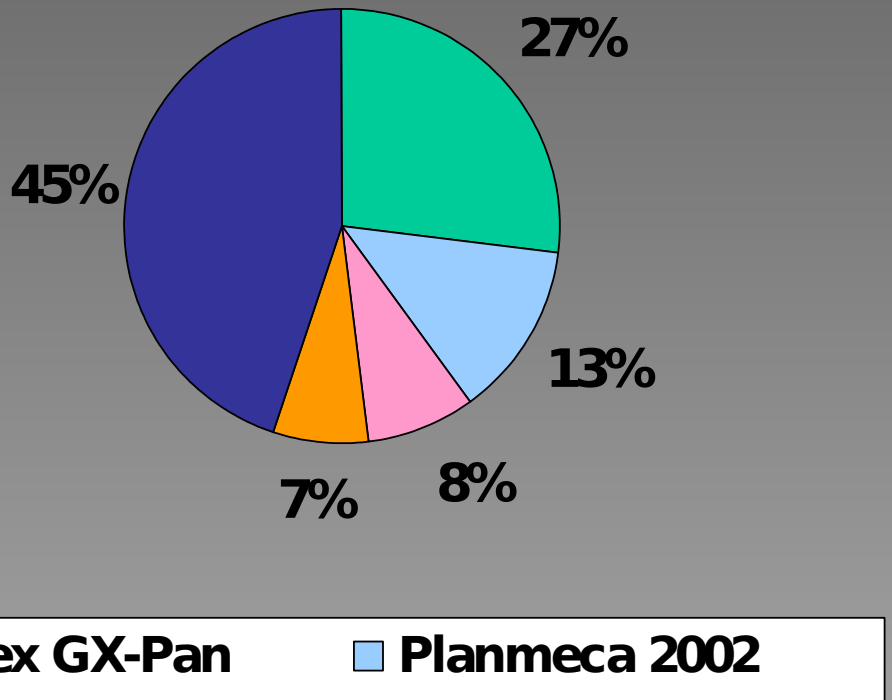
Pano X-ray Units



Source: USAF DECS

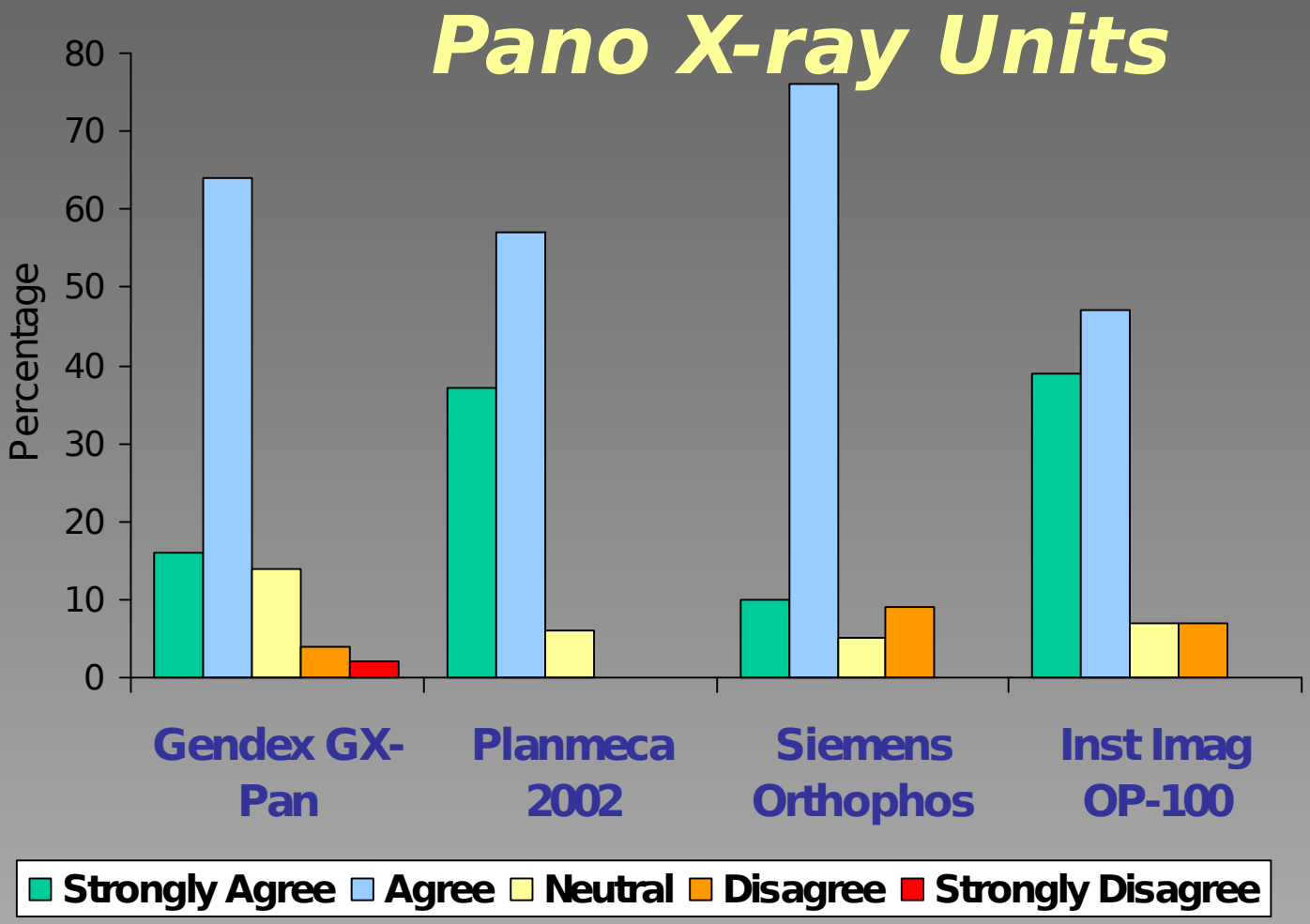
Market Share by Model

Pano X-ray Units



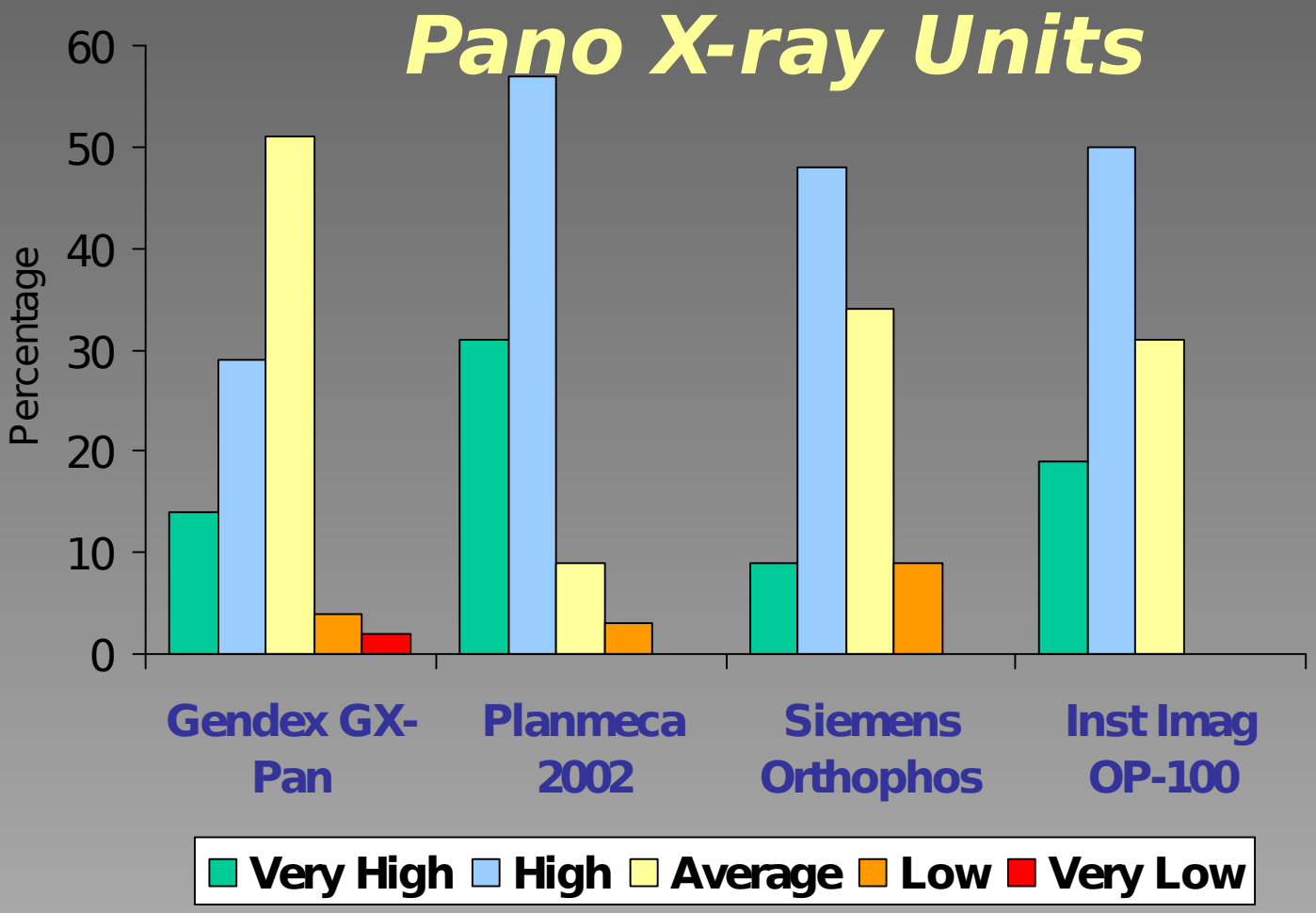
Source: USAF DECS

Meets User Needs



Source: USAF DECS

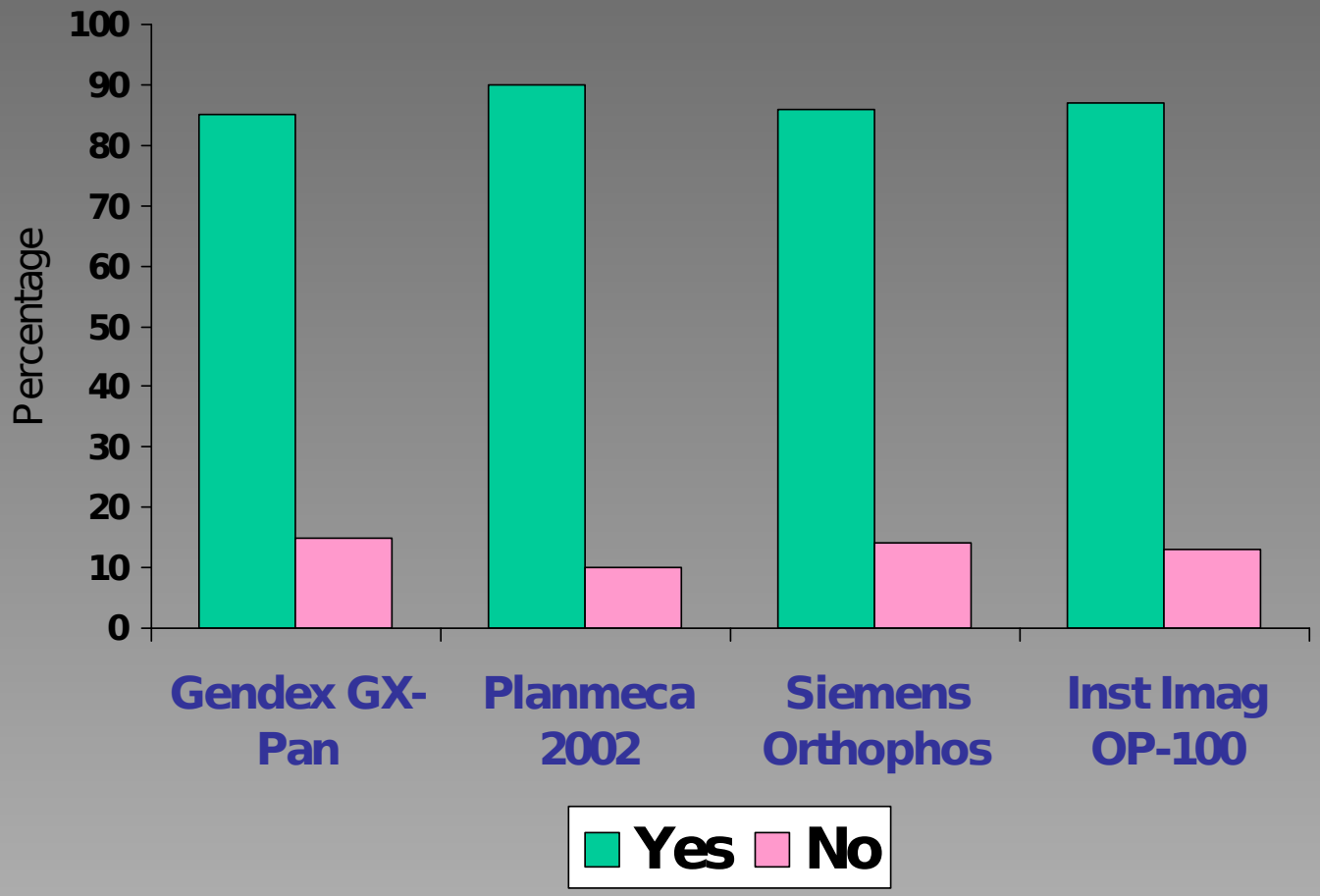
User Satisfaction



Source: USAF DECS

Buy Again?

Pano X-ray Units



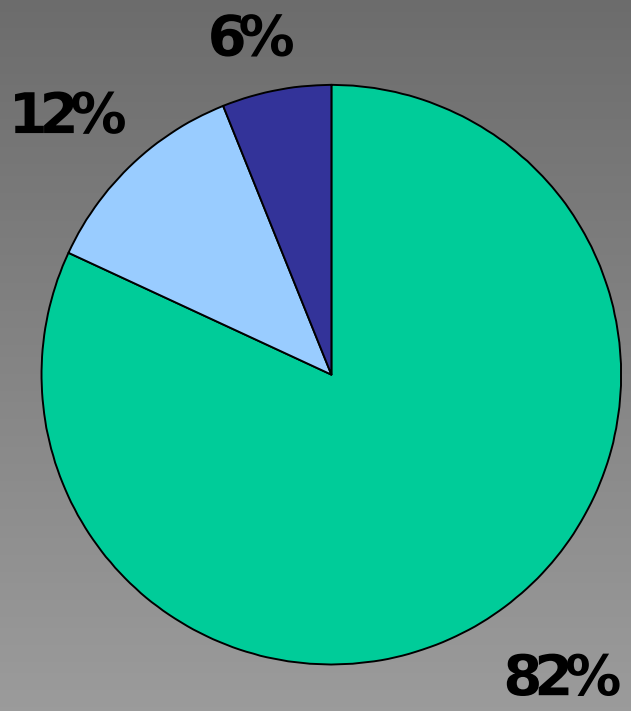
Source: USAF DECS

Automatic X-Ray Processors

Air Techniques has the largest market share (82%), followed by Gendex (12%), and Dent-X (3%). The most prevalent models are the A/T 2000 (37%), A/T 2000XR (24%), AT PerioPro (16%), and Gendex GXP (13%). The AT 2000 is no longer sold. The AT 2000XR is the only processor currently sold by Air Techniques capable of processing panoramic films. It received numerous positive comments on its reliability and ease of use, with a few negative comments on its high maintenance requirements and slow processing time. The AT PerioPro, designed for lower-volume processing of intraoral films, also received mainly positive written comments. There were a few more written comments questioning the reliability of the Gendex GXP than there were for the Air Techniques processors. The consumer satisfaction scores were Air Techniques AT 2000 XR (+0.85), Air Techniques PerioPro (+0.84), Air Techniques AT 2000 (+0.71), and Gendex GXP (+0.65).

Market Share by Company

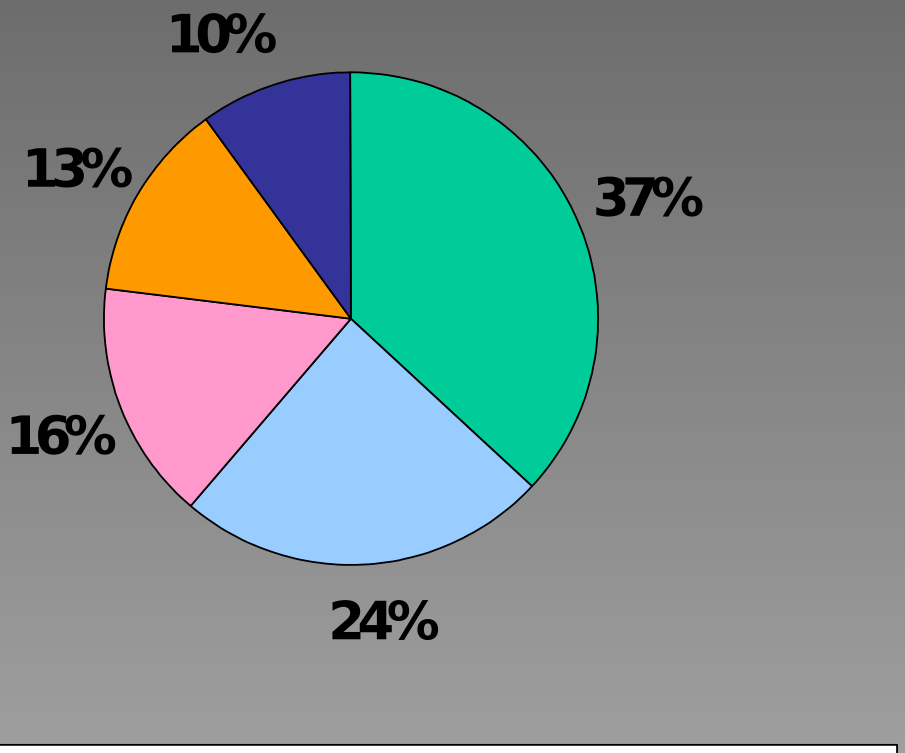
X-ray Processors



Source: USAF DECS

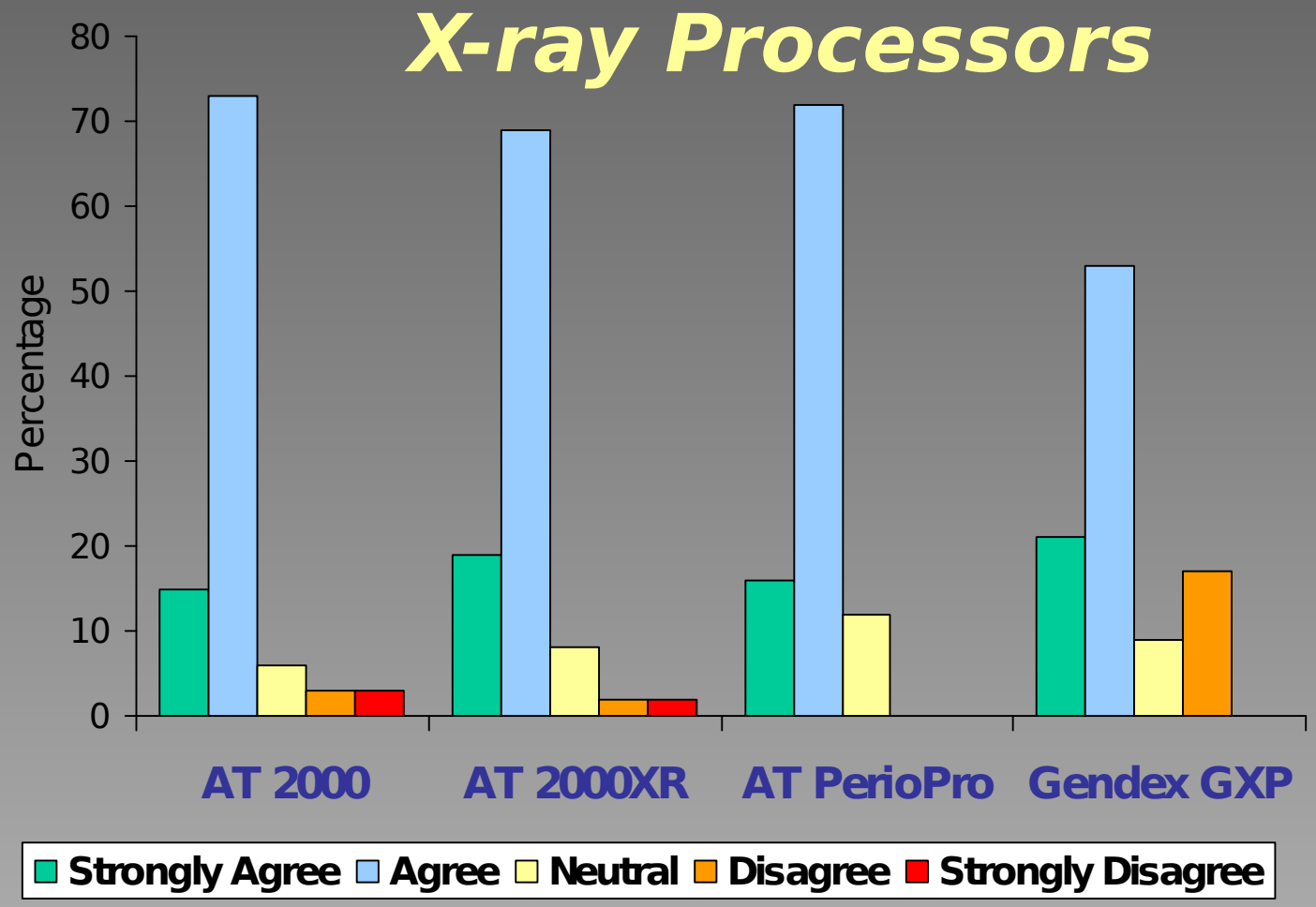
Market Share by Model

X-ray Processors



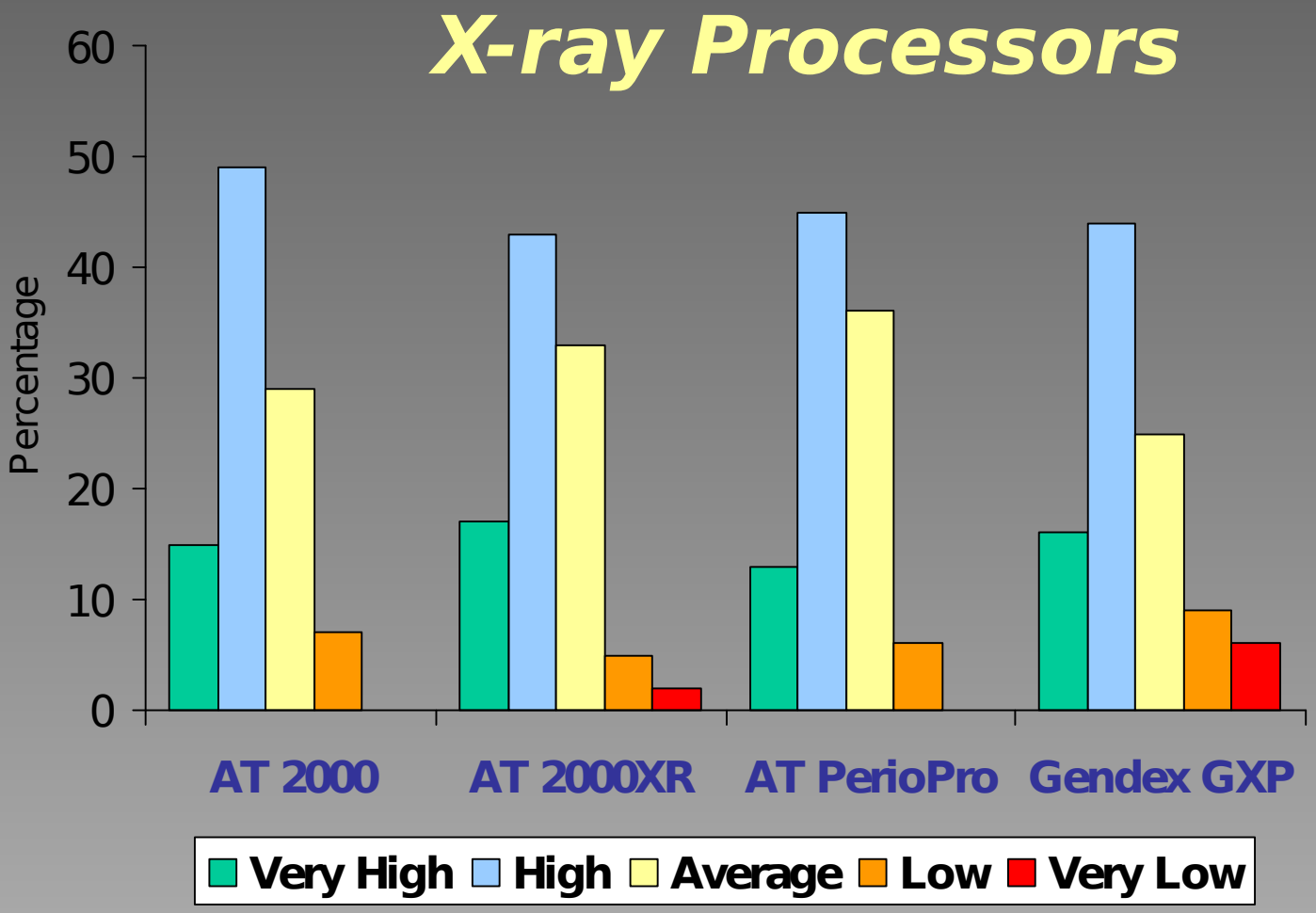
Source: USAF DECS

Meets User Needs



Source: USAF DECS

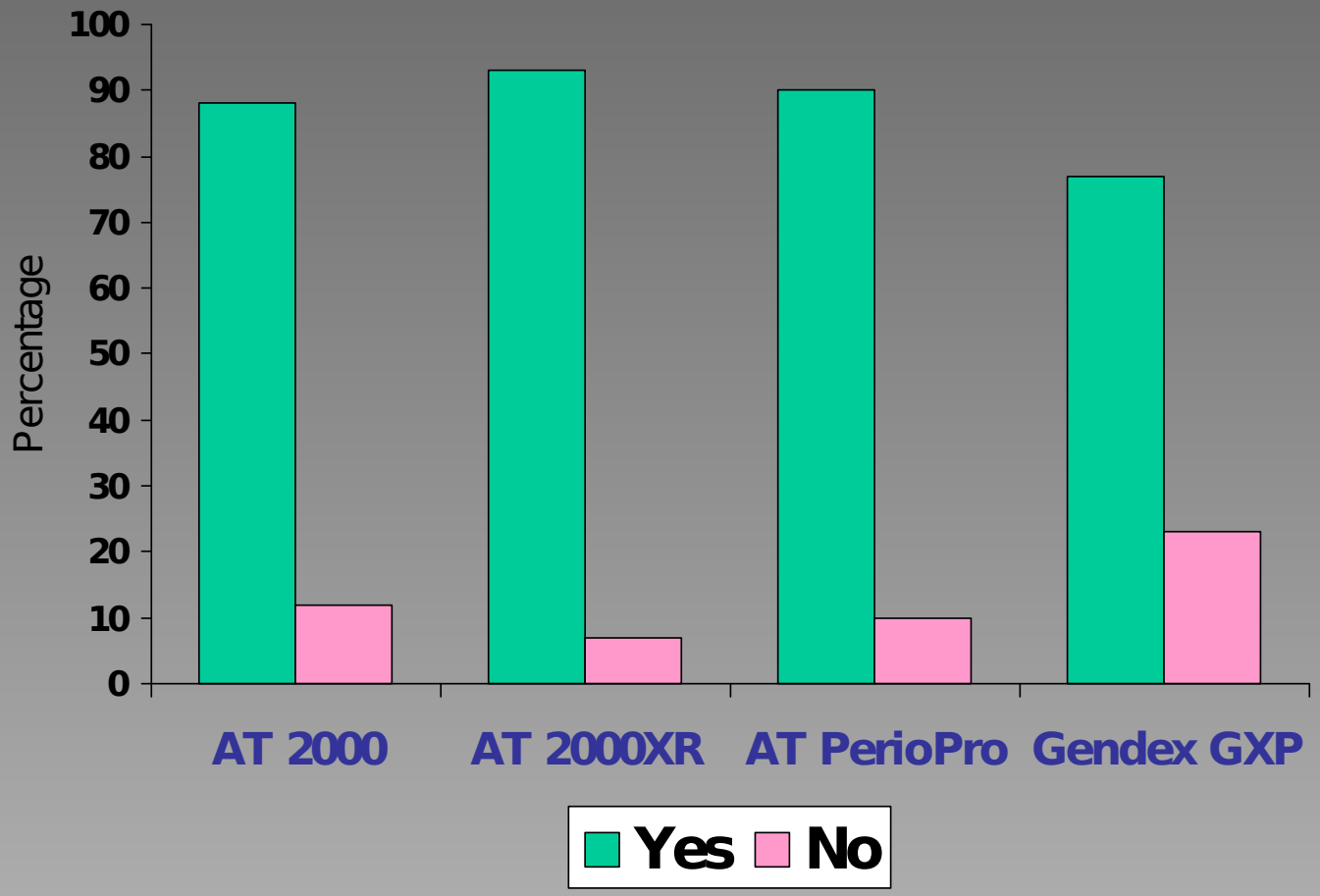
User Satisfaction



Source: USAF DECS

Buy Again?

X-ray Processors



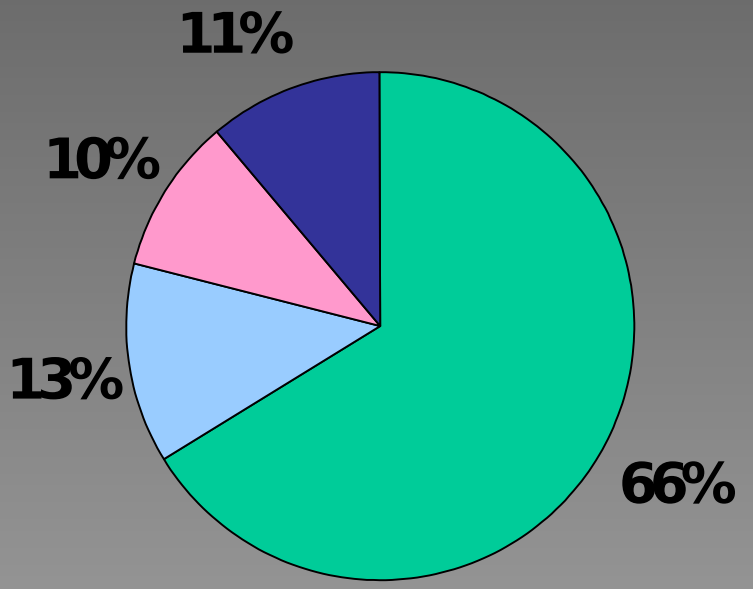
Source: USAF DECS

Curing Lights

Kerr Demetron has the largest market share (66%), followed by Caulk (13%), and 3M ESPE (10%). The most prevalent models are the Demetron Optilux 400/401 (23%), the Demetron Optilux 501 (20%), Demetron Optilux 500 (8%), and the LEDemetron 1 (5%). The Demetron Optilux 400, 401, and 500 curing lights are no longer sold. The Optilux 501 received mostly positive comments, citing its reliability and good performance. The LEDemetron 1 received positive comments for its cordlessness and portability. The consumer satisfaction scores for curing lights were Optilux 500 (+1.41), Optilux 501 (+1.30), LEDemetron 1 (+1.17), Optilux 400/401 (+0.84).

Market Share by Company

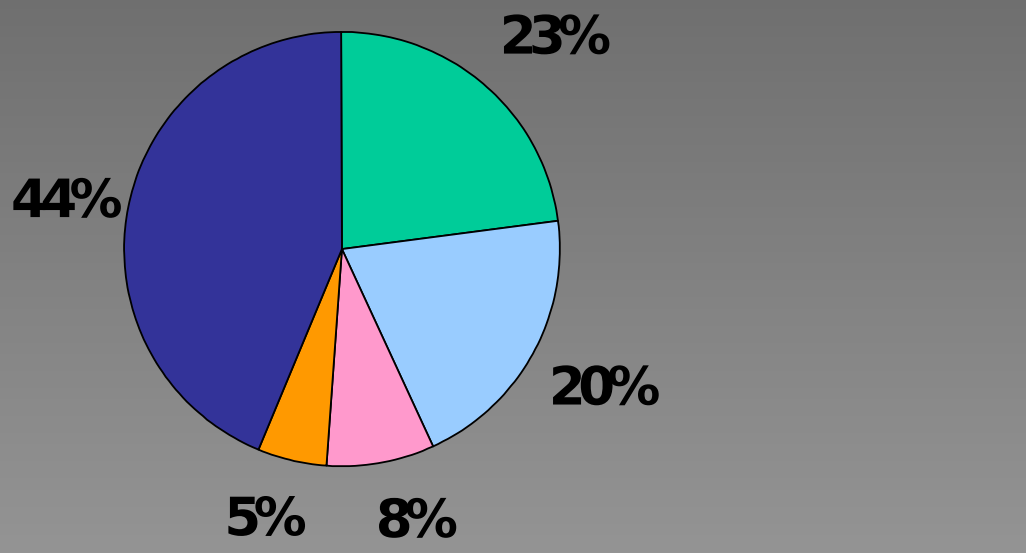
Curing Lights



Source: USAF DECS

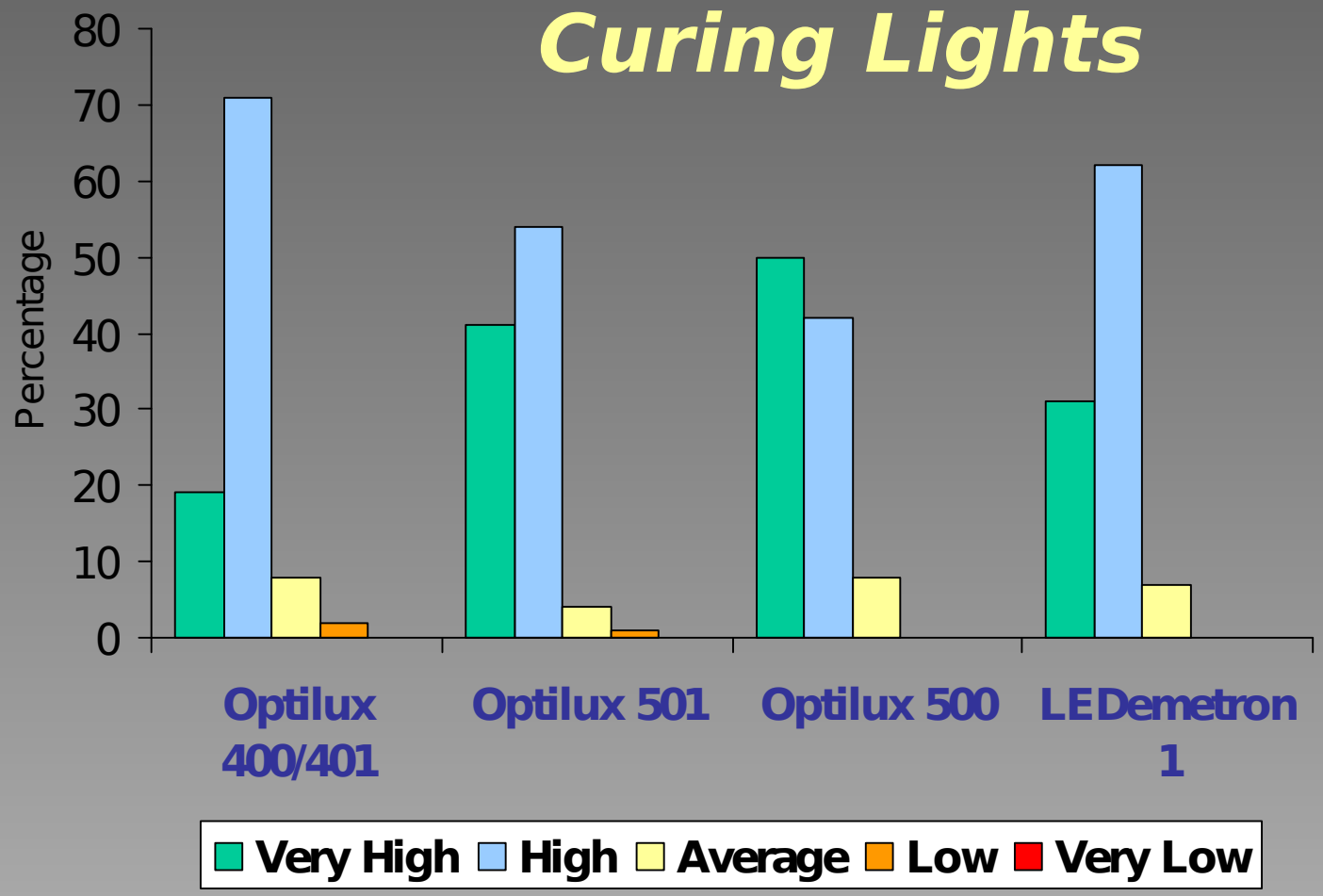
Market Share by Model

Curing Lights



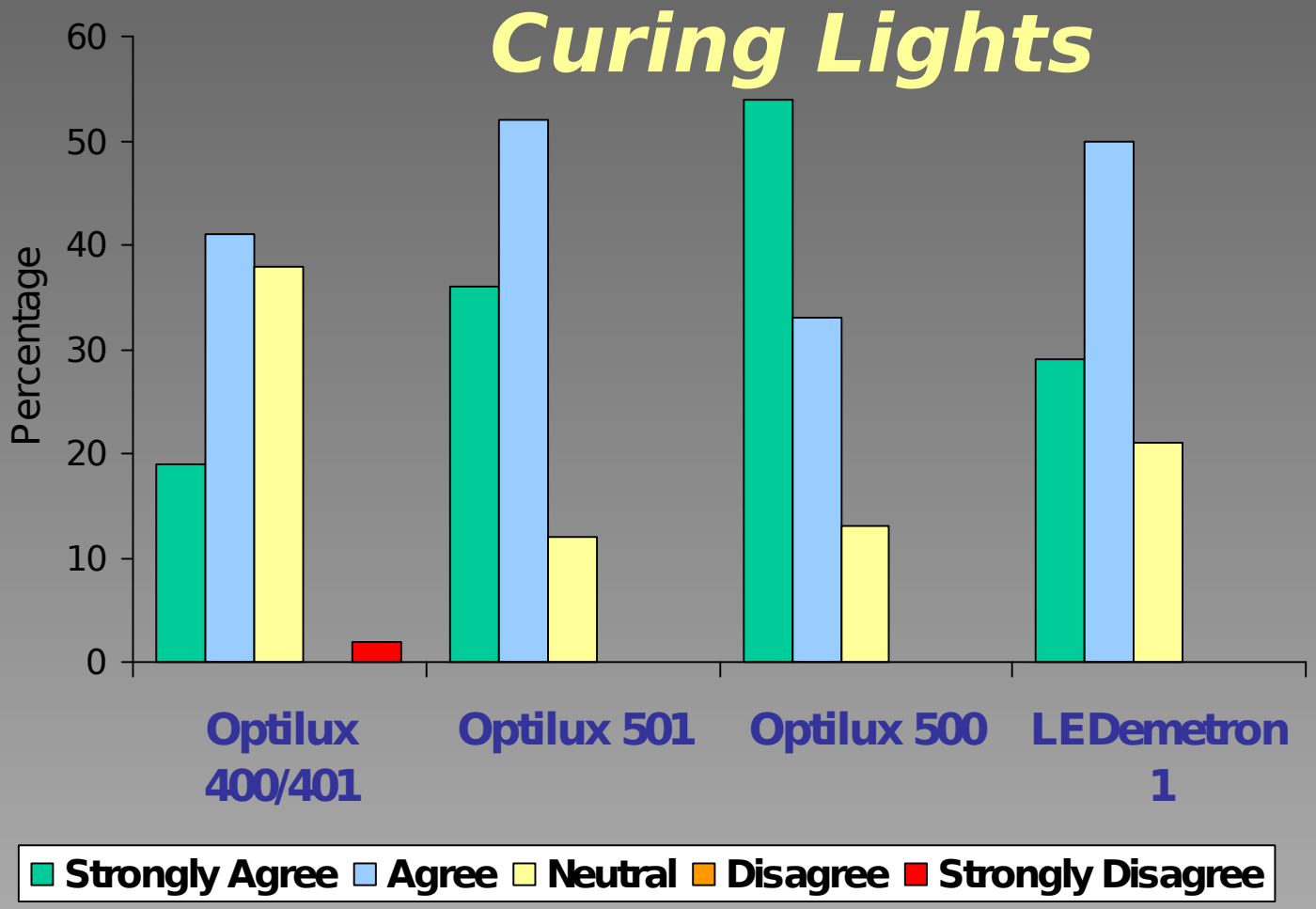
Source: USAF DECS

User Satisfaction



Source: USAF DECS

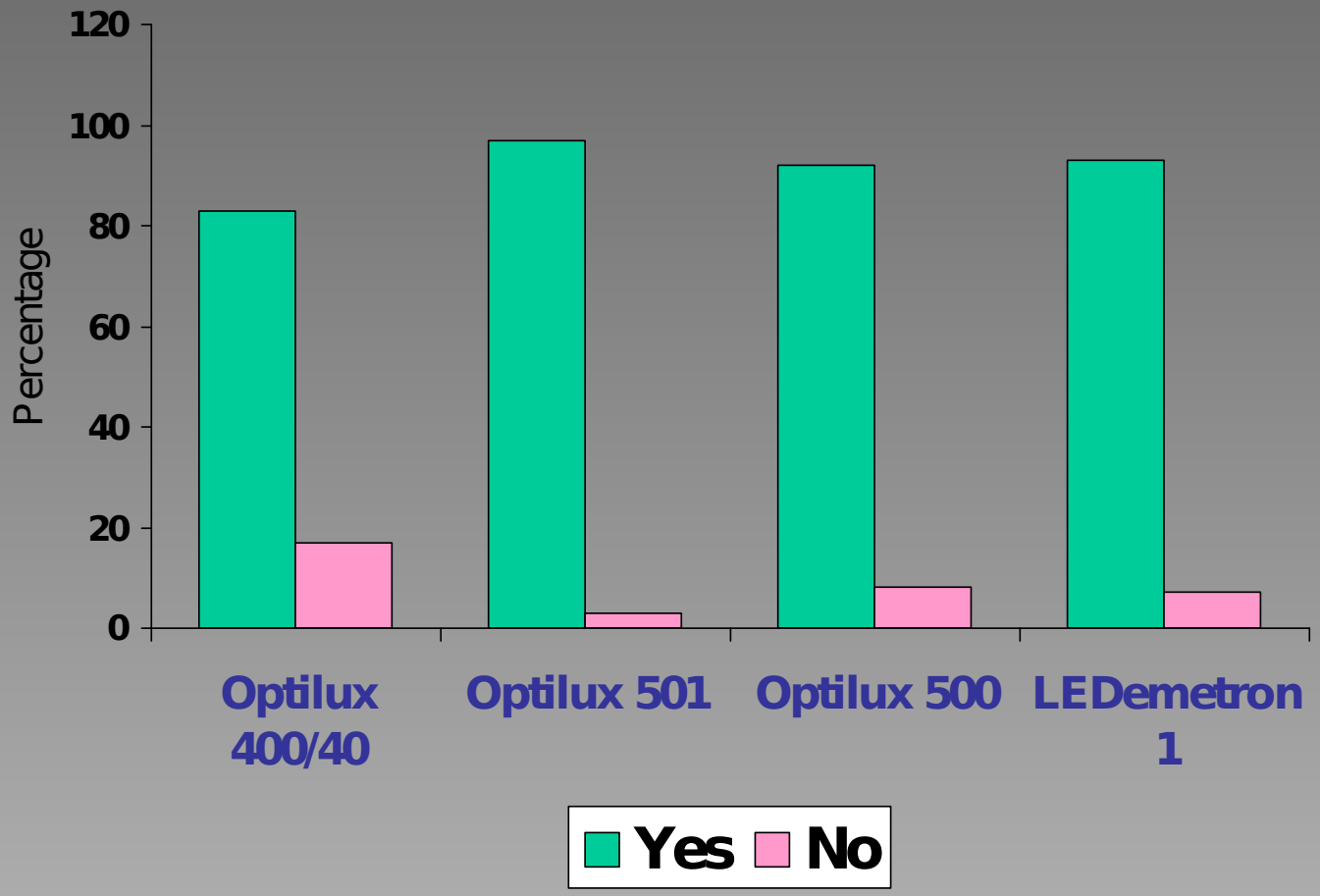
Meets User Needs



Source: USAF DECS

Buy Again?

Curing Lights



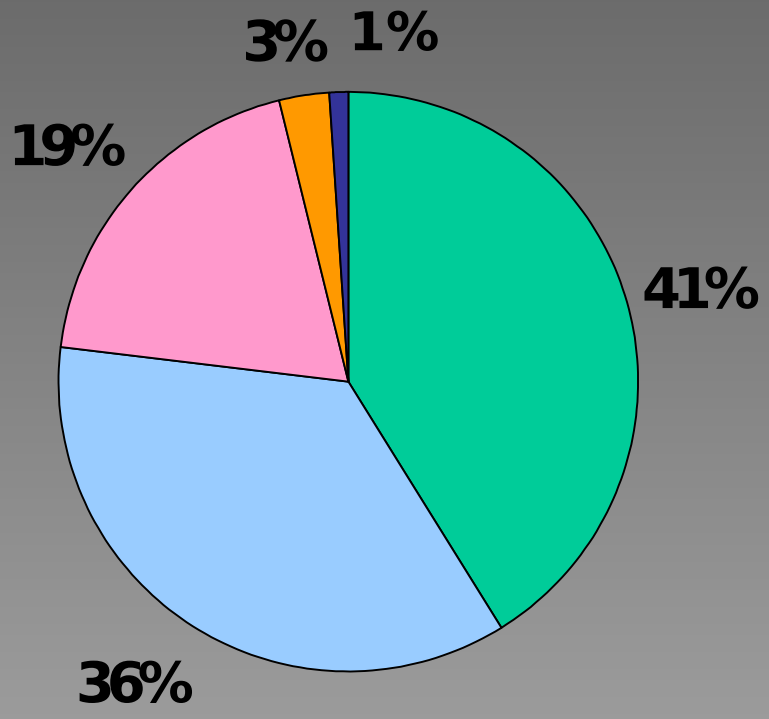
Source: USAF DECS

High-speed Handpieces

Star has the largest market share (41%), followed by Midwest (36%), Kavo (19%), and A-dec/W&H (3%). The most prevalent models are the Star 430 SWL (34%), Midwest Tradition (21%), Kavo 635B (11%), and Midwest XGT (7%). Providers appreciated the small head and the lubrication-free aspect of the Star 430 SWL. The Kavo 635B received mostly positive comments. The Midwest XGT received many positive comments and some negative comments on its bulkiness. The Midwest Tradition is an older model than the Midwest XGT and that may explain the lower Consumer Satisfaction Score. The consumer satisfaction scores were Kavo 635 B (+1.14), Midwest XGT (+1.00), Star 430 SWL (+0.85), and Midwest Tradition (+0.75).

Market Share by Company

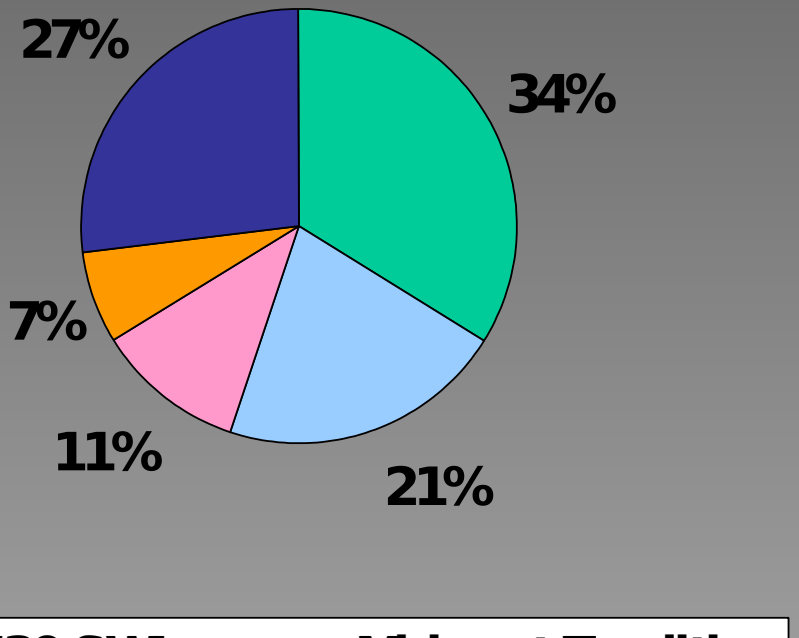
High-speed Handpieces



Source: USAF DECS

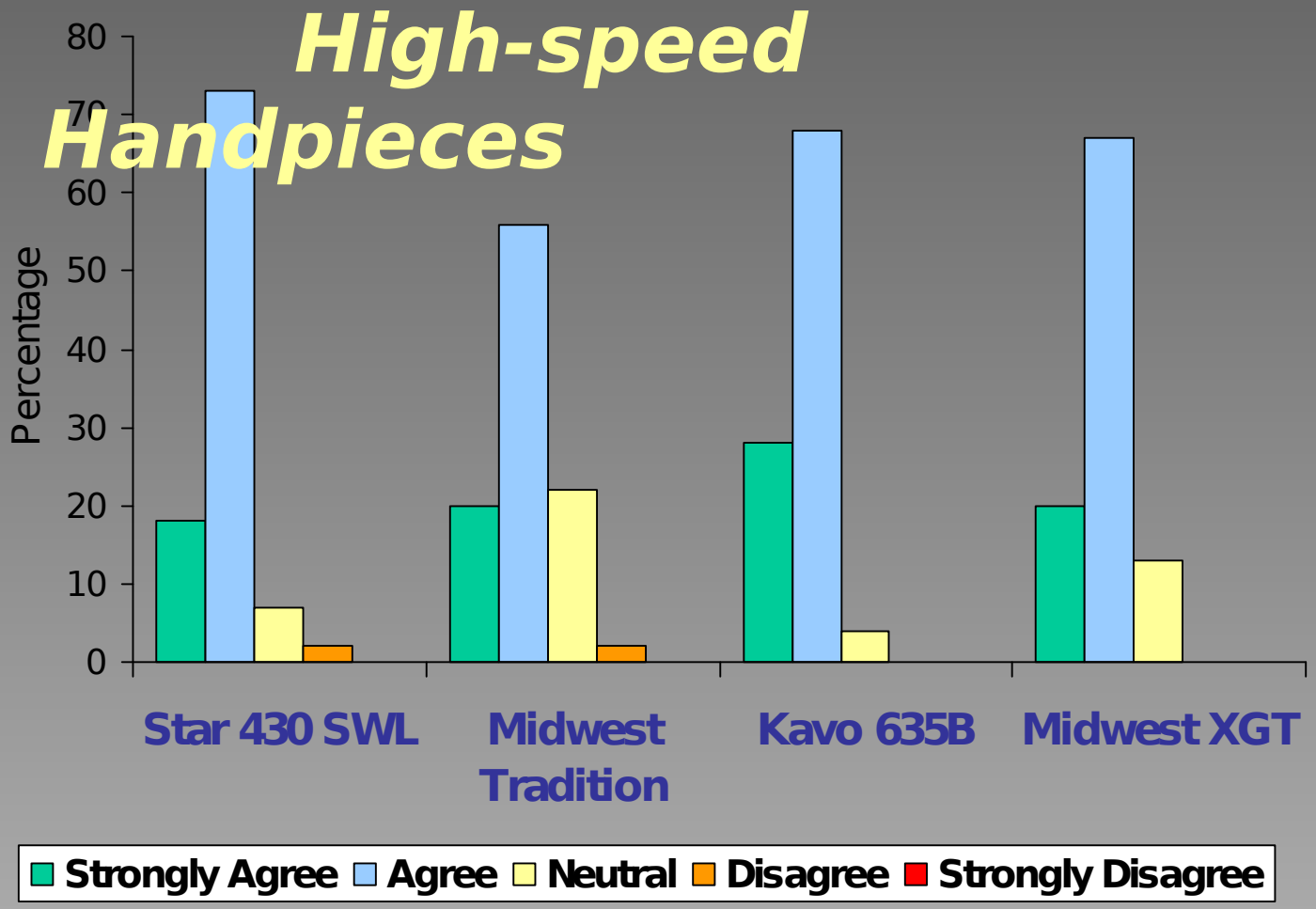
Market Share by Model

High-speed Handpieces



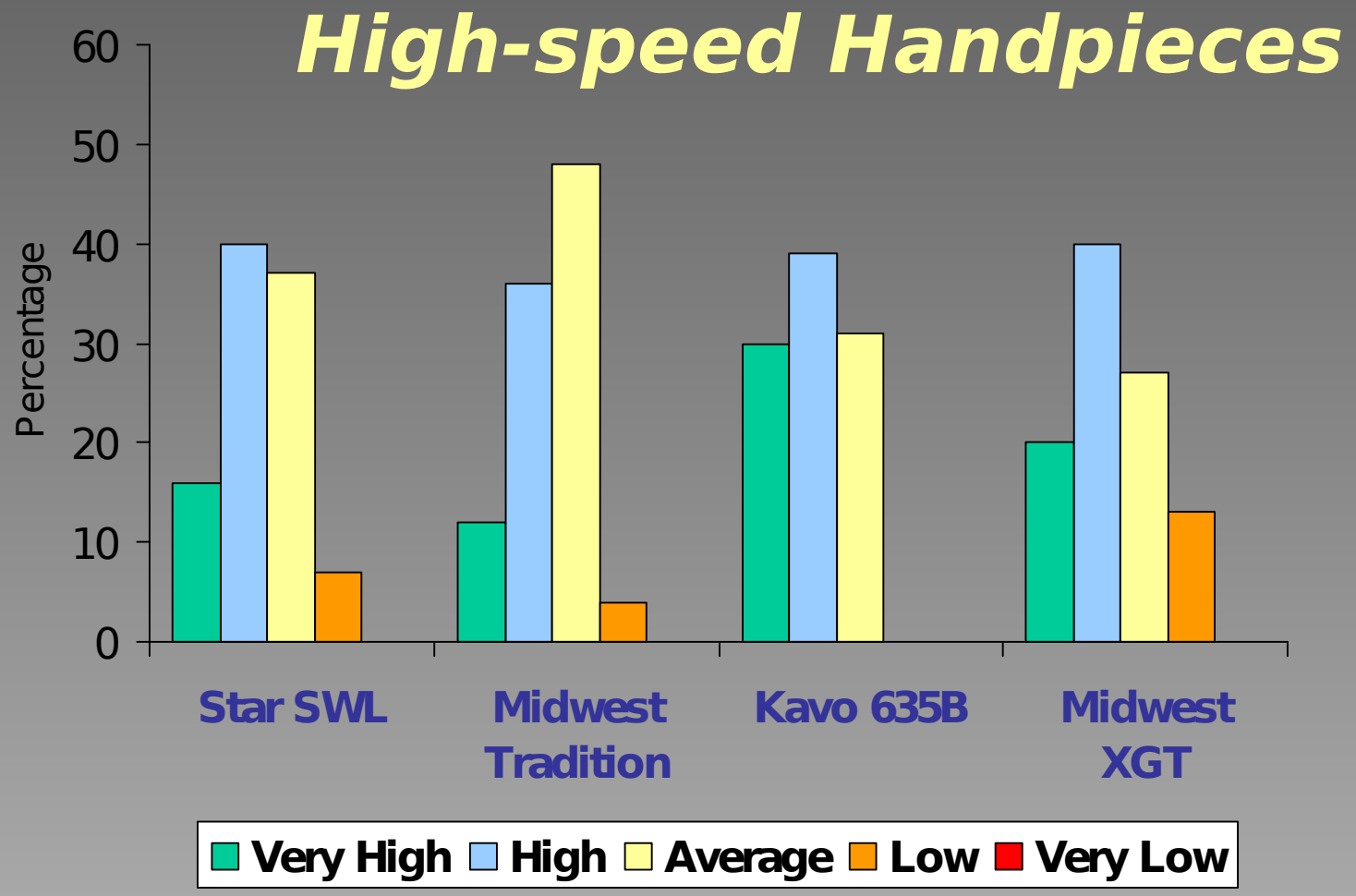
Source: USAF DECS

Meets User Needs



Source: USAF DECS

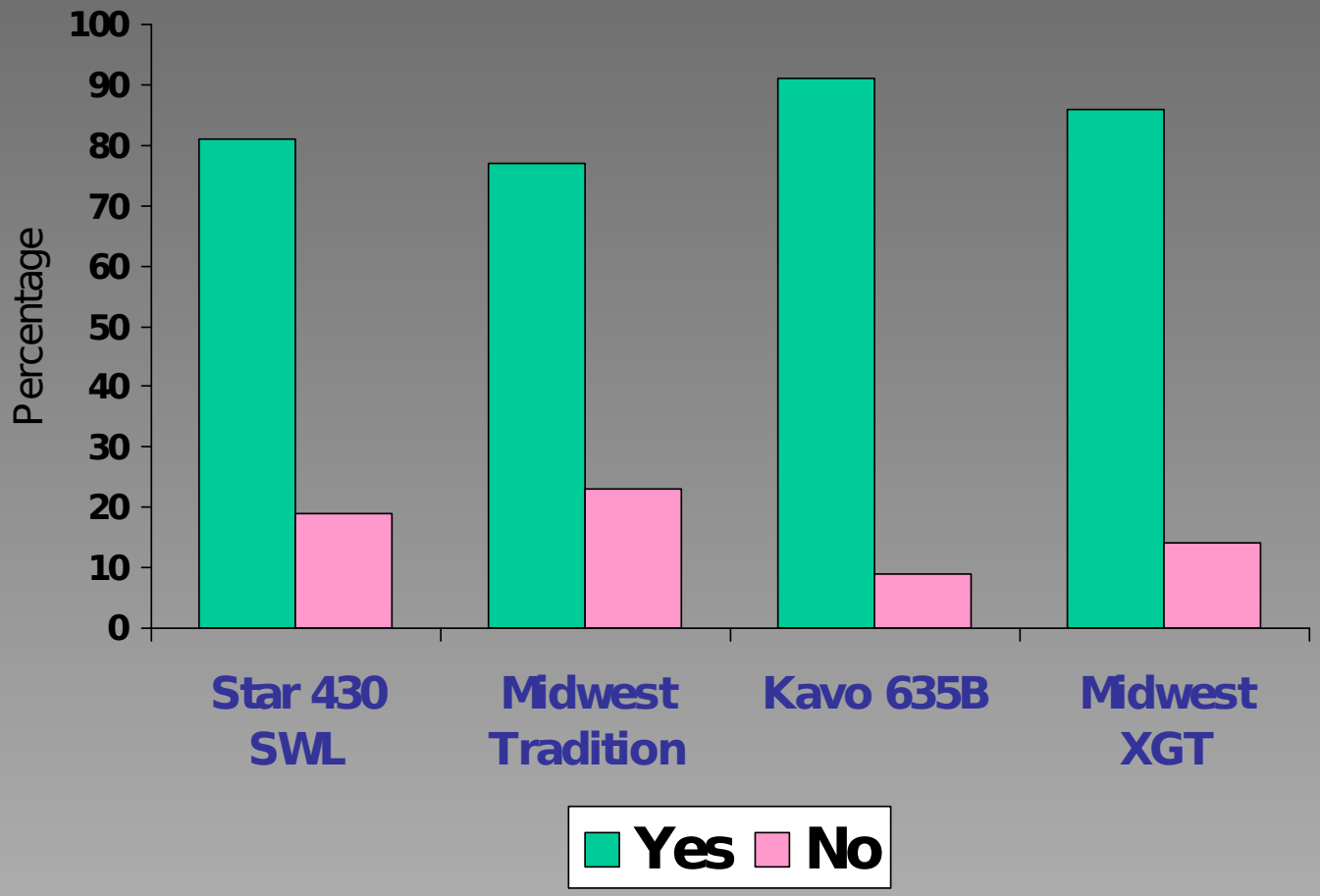
User Satisfaction



Source: USAF DECS

Buy Again?

High-speed Handpieces



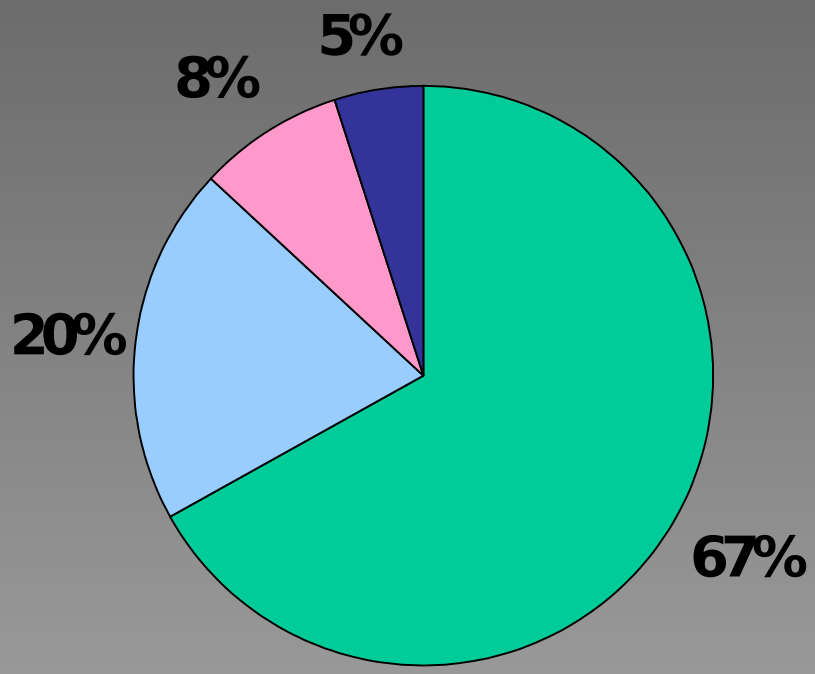
Source: USAF DECS

Low-speed Handpieces

Midwest has the largest market share (67%), followed by Star (20%), and Kavo (8%). The most prevalent models were the Midwest Shorty (65%), Star Titan (18%), and Kavo Intraflex (6%). The Midwest Shorty is pistol-shaped while the Star Titan and Kavo Intraflex are straight. The Midwest Shorty was noted for its reliability and durability with some respondents noting that it does not offer fiberoptics and that the bur sometimes requires a manual jump-start. Respondents were generally satisfied with the Star Titan, with only a few negative comments on motor longevity. Kavo Intraflex owners were the most satisfied. The consumer satisfaction scores were Kavo Intraflex (+1.12), Star Titan (+0.89), and Midwest Shorty (+0.77).

Market Share by Company

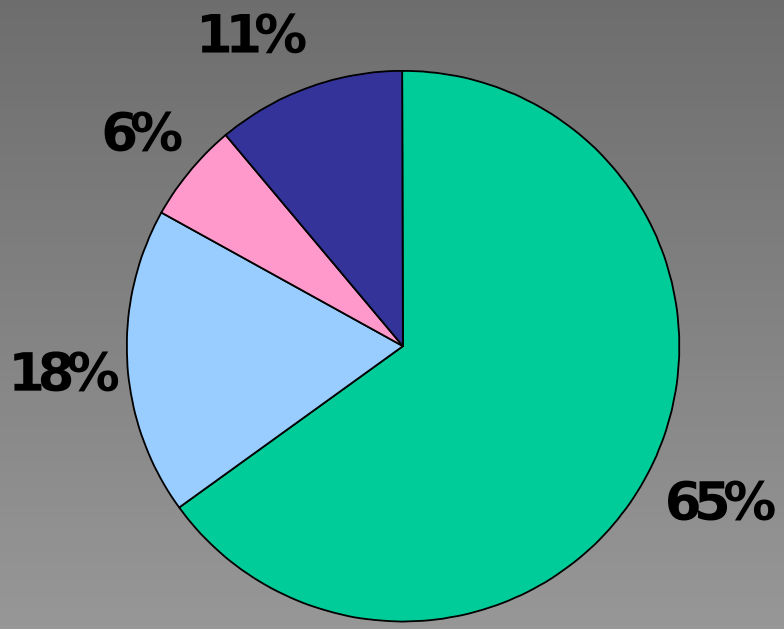
Low-speed Handpieces



Source: USAF DECS

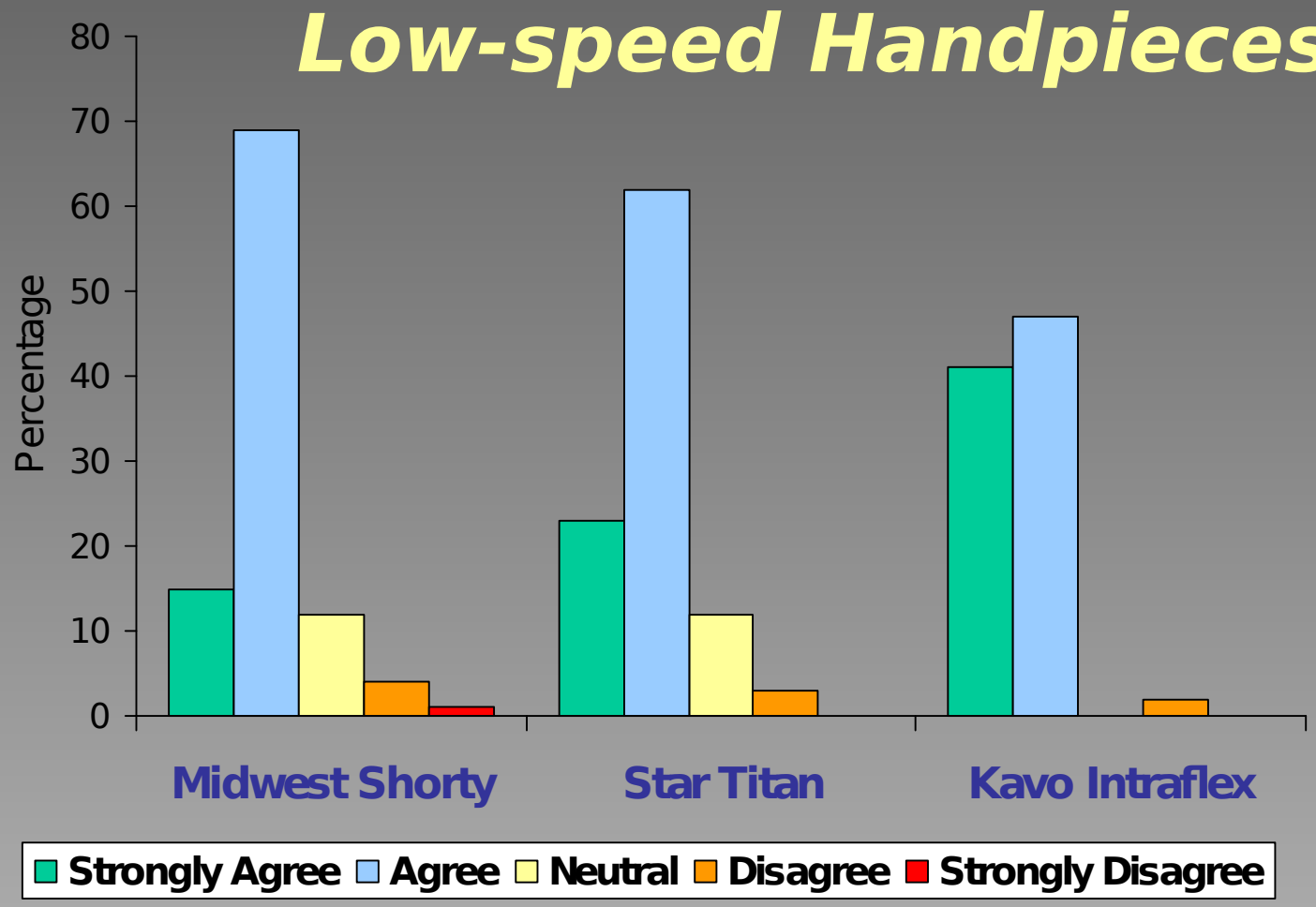
Market Share by Model

Low-speed Handpieces



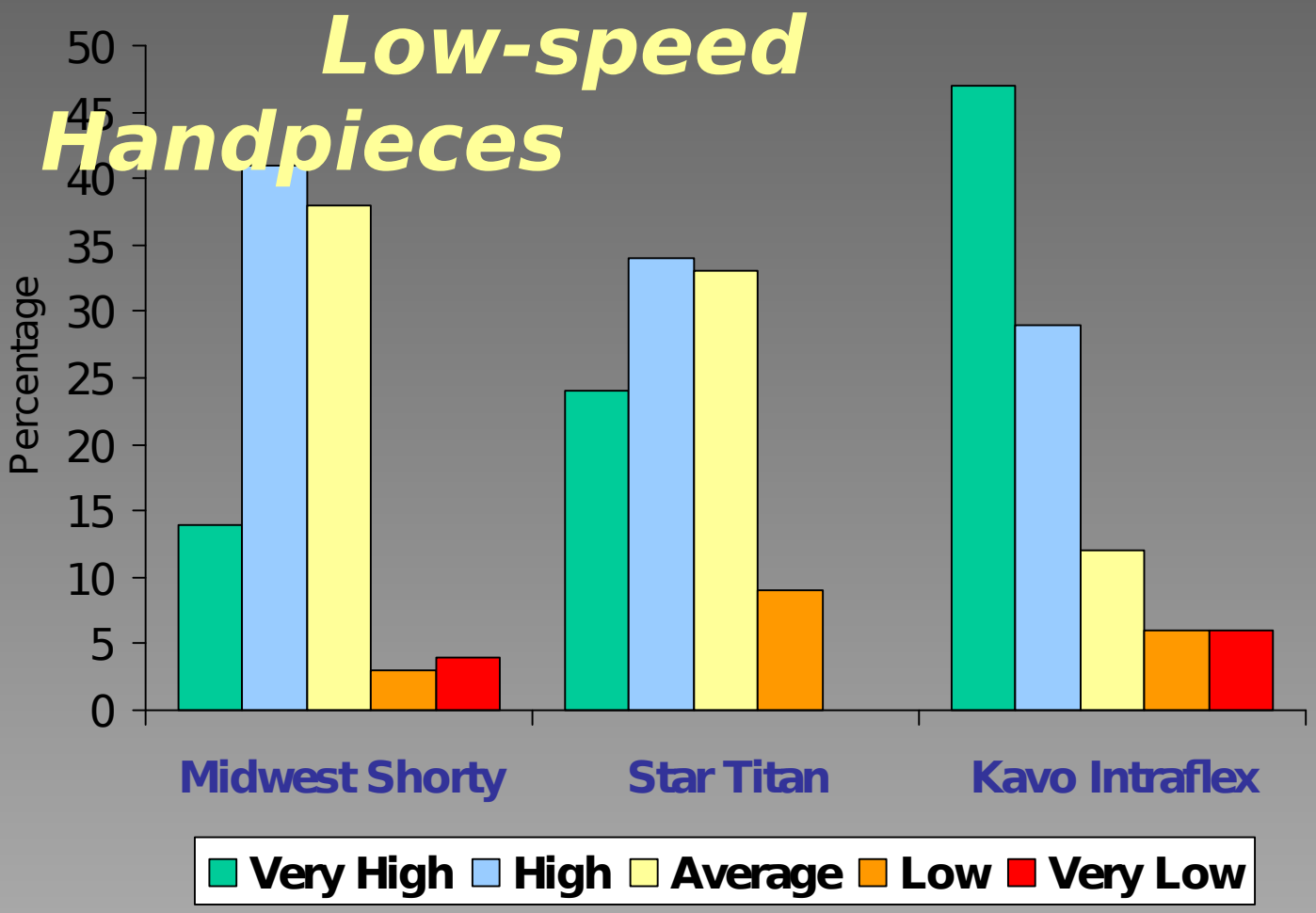
Source: USAF DECS

Meets User Needs



Source: USAF DECS

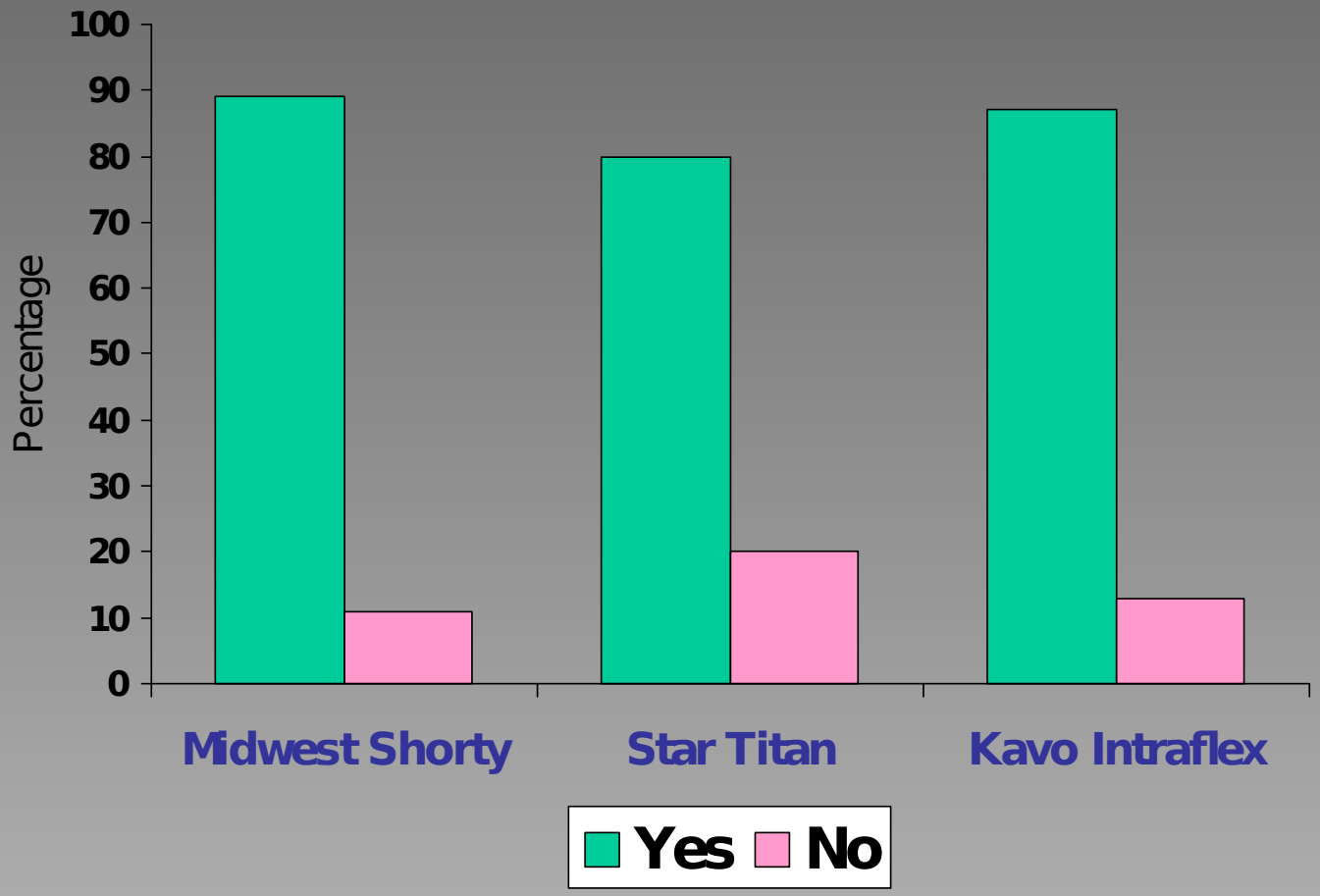
User Satisfaction



Source: USAF DECS

Buy Again?

Low-speed Handpieces



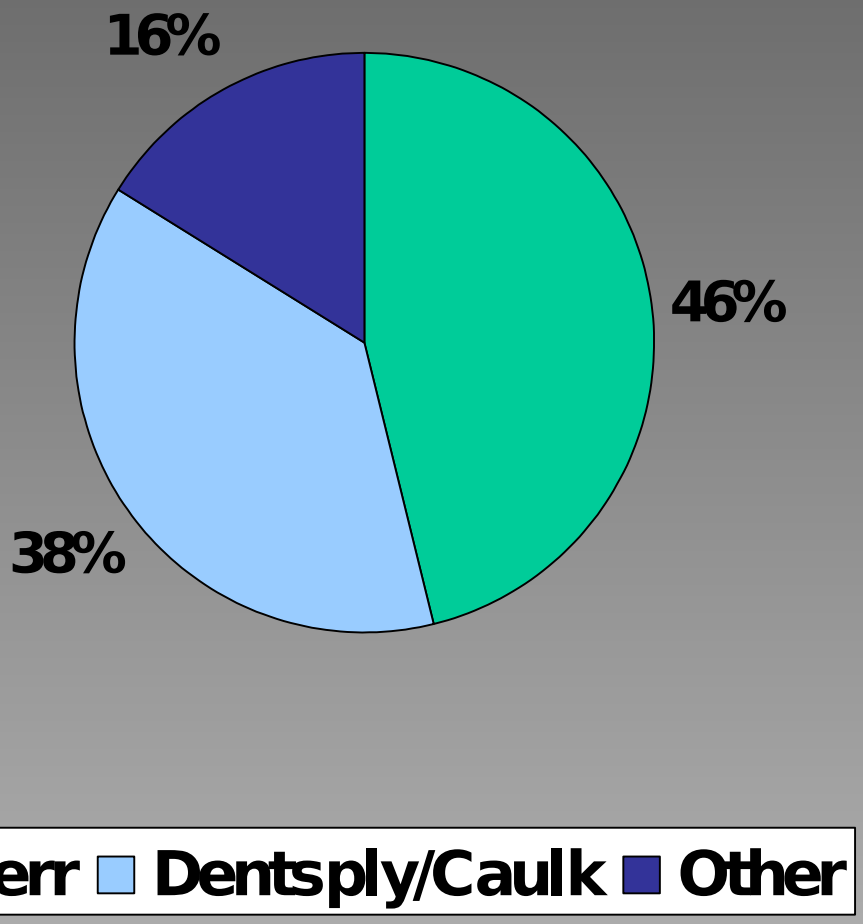
Source: USAF DECS

Triturators

Kerr has the largest market share at 46% followed by Dentsply/Caulk at 38%. The most prevalent models are Caulk ProMix (30%), Kerr Optimix (28%), Kerr Automix (14%), and Caulk Vari-Mix (9%). Respondents were generally content with the Kerr Optimix/Automix and Caulk ProMix, citing them as reliable units. The Caulk Vari-Mix is no longer available. The consumer satisfaction scores were Kerr Optimix (+1.22), Kerr Automix (+1.07), Caulk ProMix (+1.05) and Caulk Vari-Mix (+0.72).

Market Share by Company

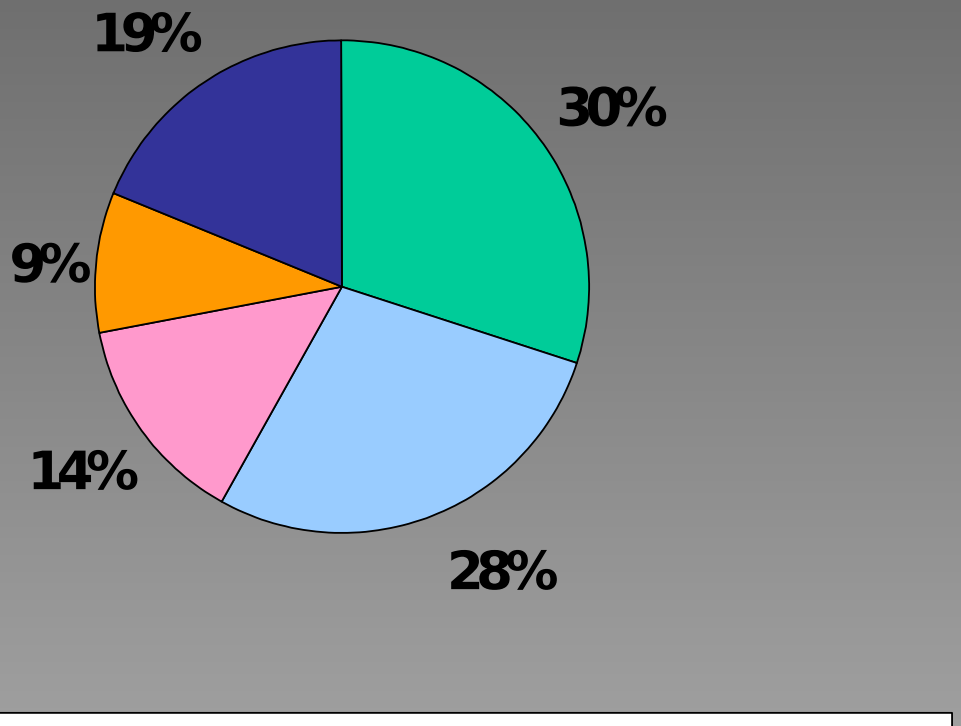
Triturators



Source: USAF DECS

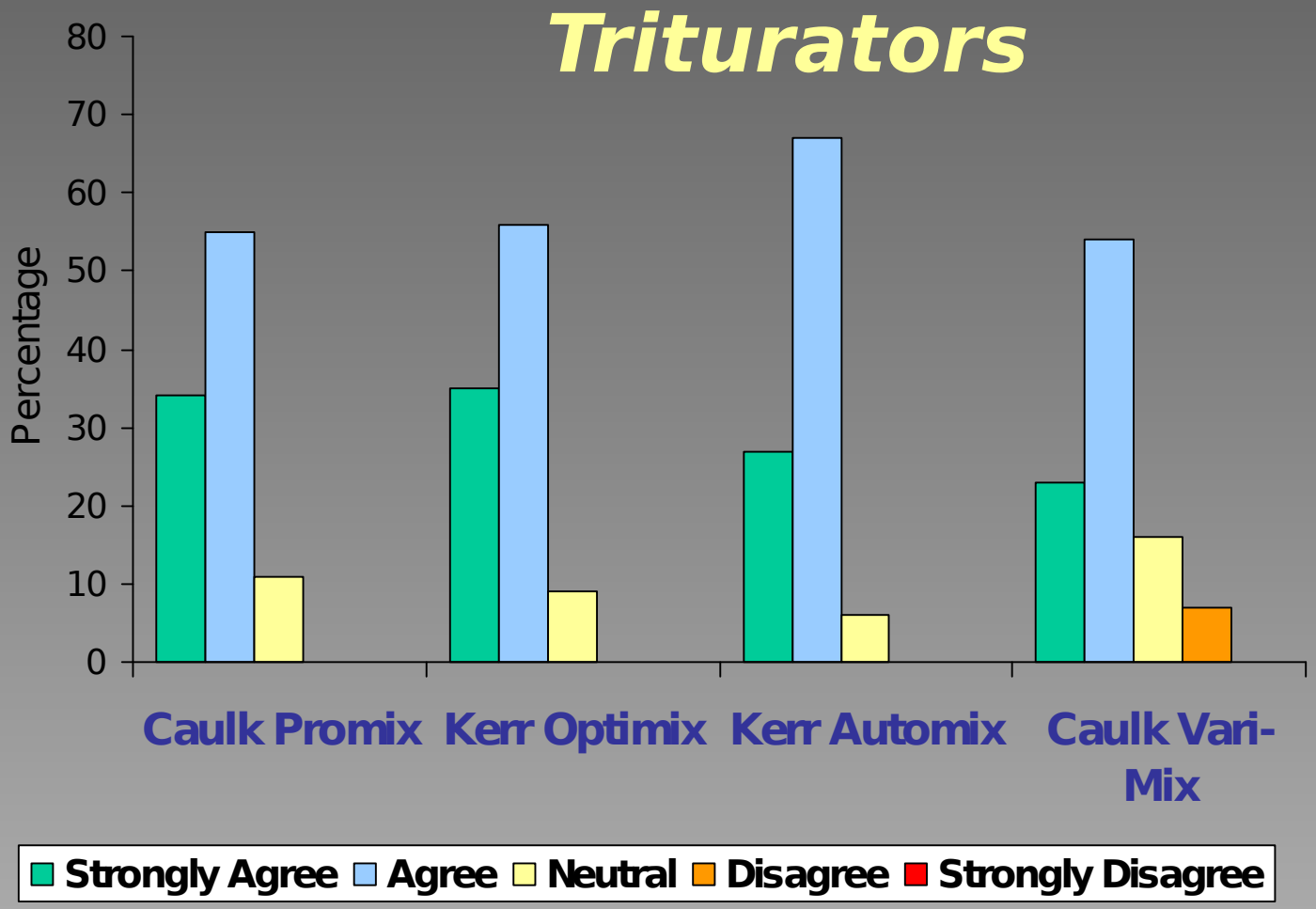
Market Share by Model

Triturators



Source: USAF DECS

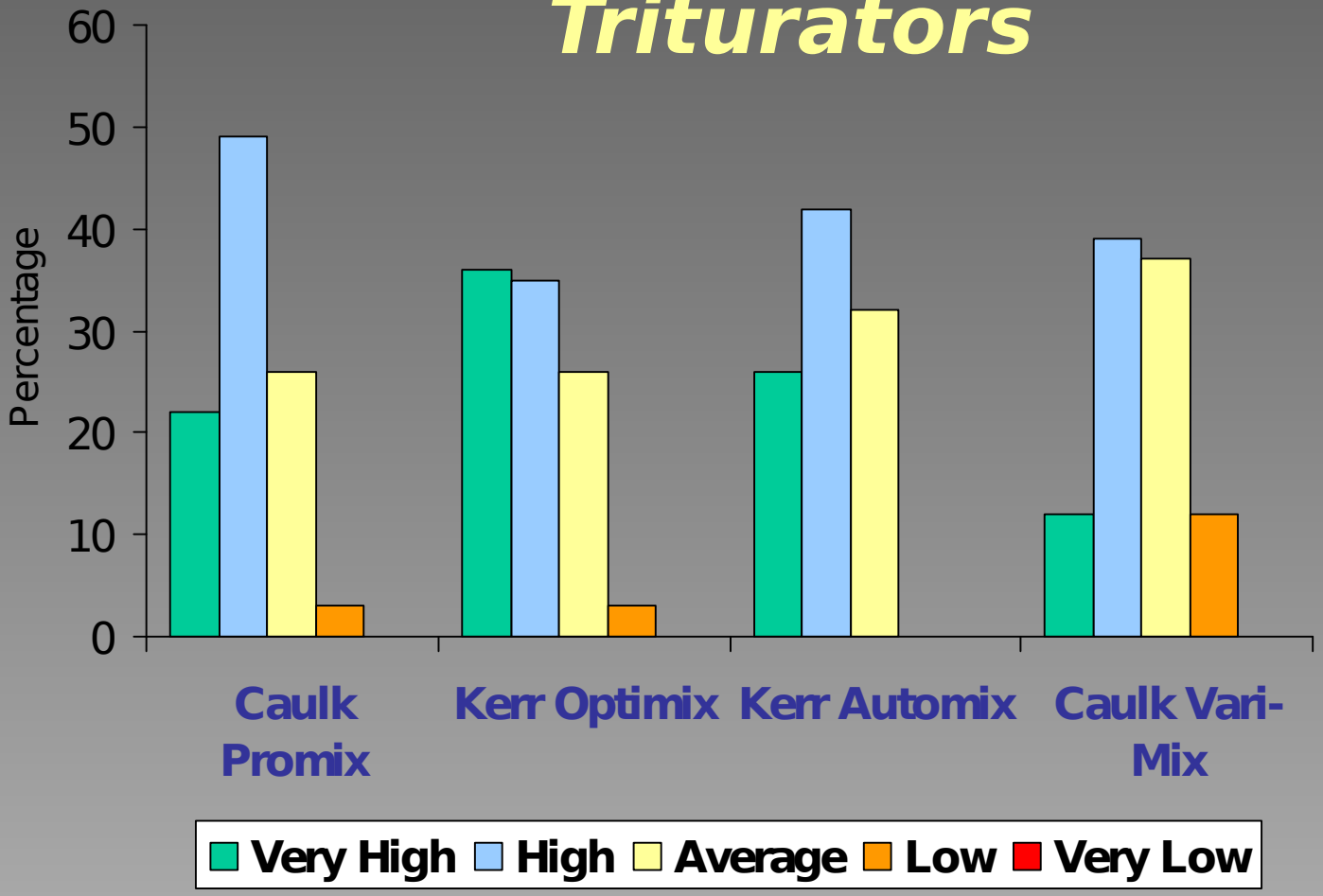
Meets User Needs



Source: USAF DECS

User Satisfaction

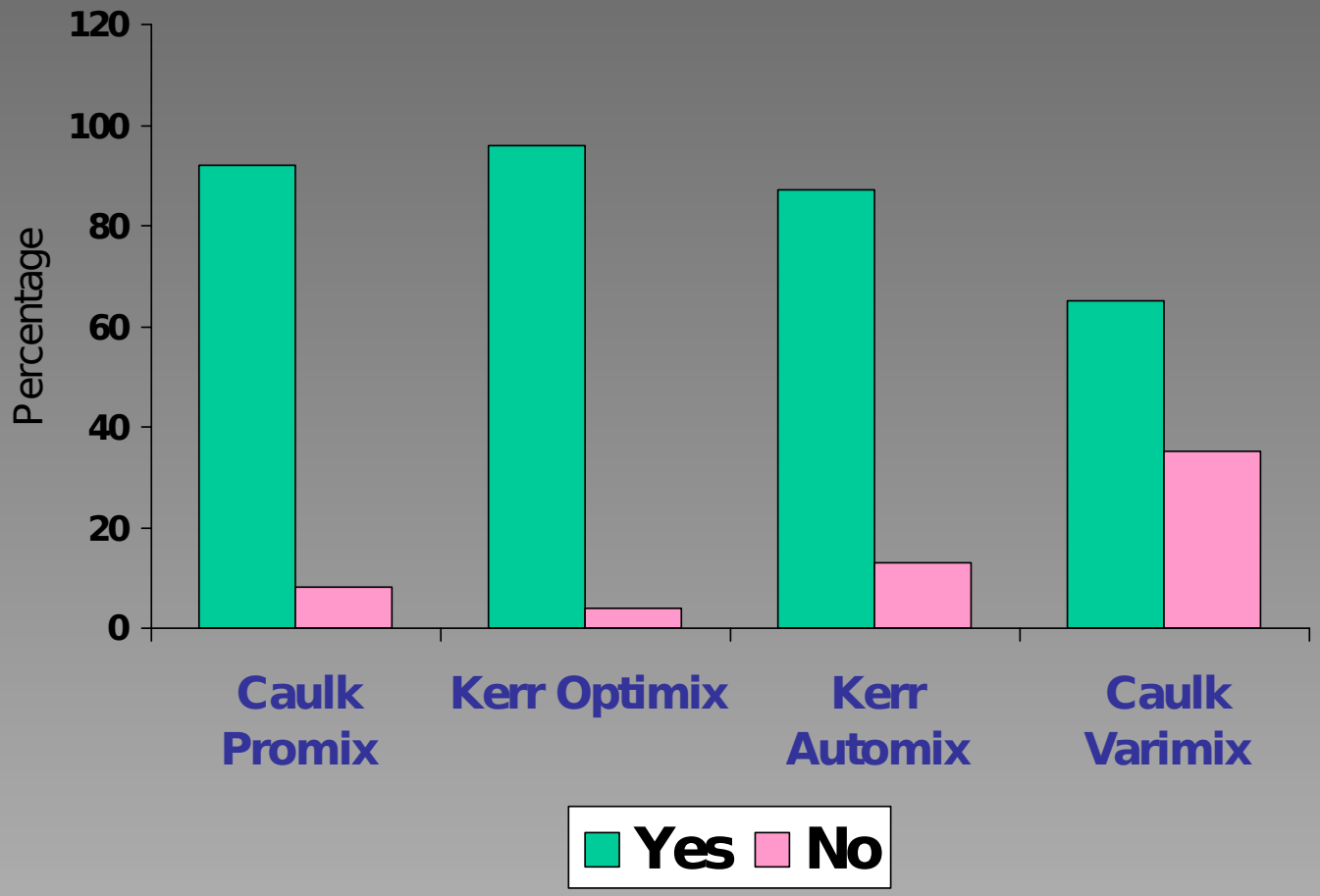
Triturators



Source: USAF DECS

Buy Again?

Triturators



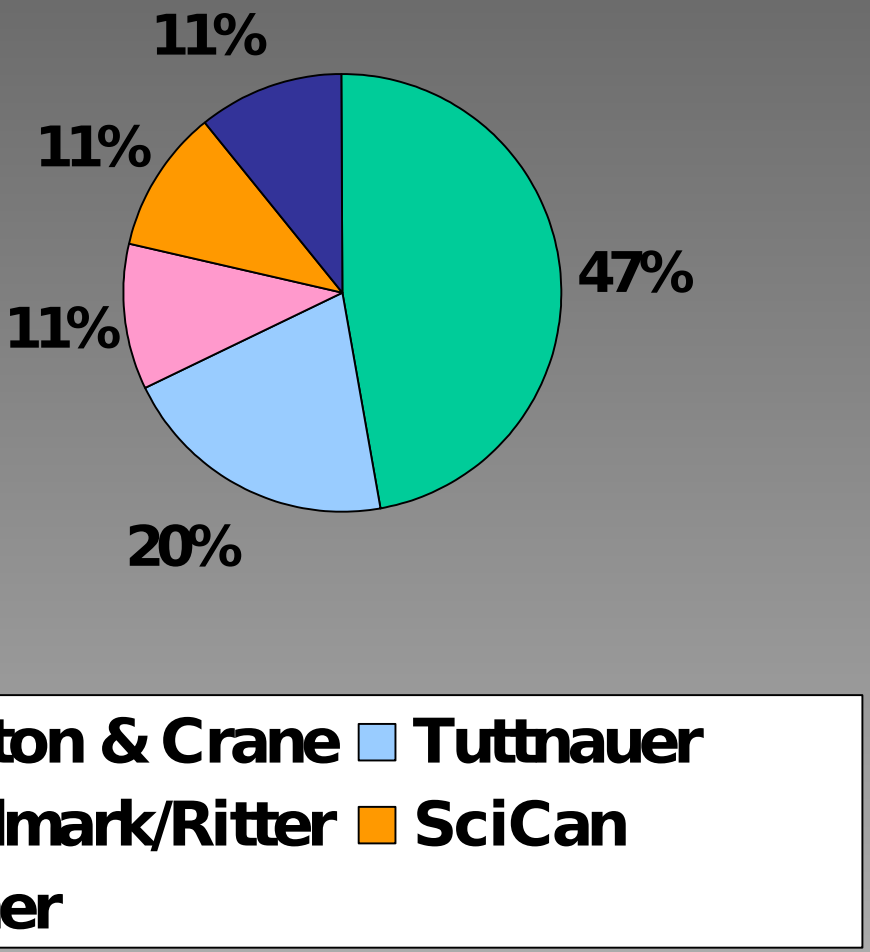
Source: USAF DECS

Steam Sterilizers (table-top)

Pelton & Crane has the largest market share (47%), followed by Tuttnauer (20%), Midmark/Ritter (11%), and SciCan (11%). The most prevalent models were the Pelton & Crane Magnaclave (24%), Pelton & Crane Validator Plus (13%), Pelton and Crane Delta XL (12%), Midmark/Ritter M11 Ultraclave (10%), and the SciCan Statim 2000/5000 (9%). The Magnaclave has a 15” chamber and comes with a floorstand, but is basically a table-top sterilizer. Of the Pelton & Crane models, the Delta XL (8” or 10” chamber) had the most positive comments about reliability and durability and had very few negative comments. The Midmark/Ritter M11 Ultraclave (11” chamber) had the fewest negative comments about breakdowns. Respondents liked the small size and fast turnaround time of the Statim with cassette technology. The consumer satisfaction scores were SciCan/Statim 2000/5000 (+1.14), Midmark/Ritter M11 Ultraclave (+1.10), P&C Delta XL (+1.07), P&C Validator Plus (+0.84), and P&C Magnaclave (+0.47).

Market Share by Company

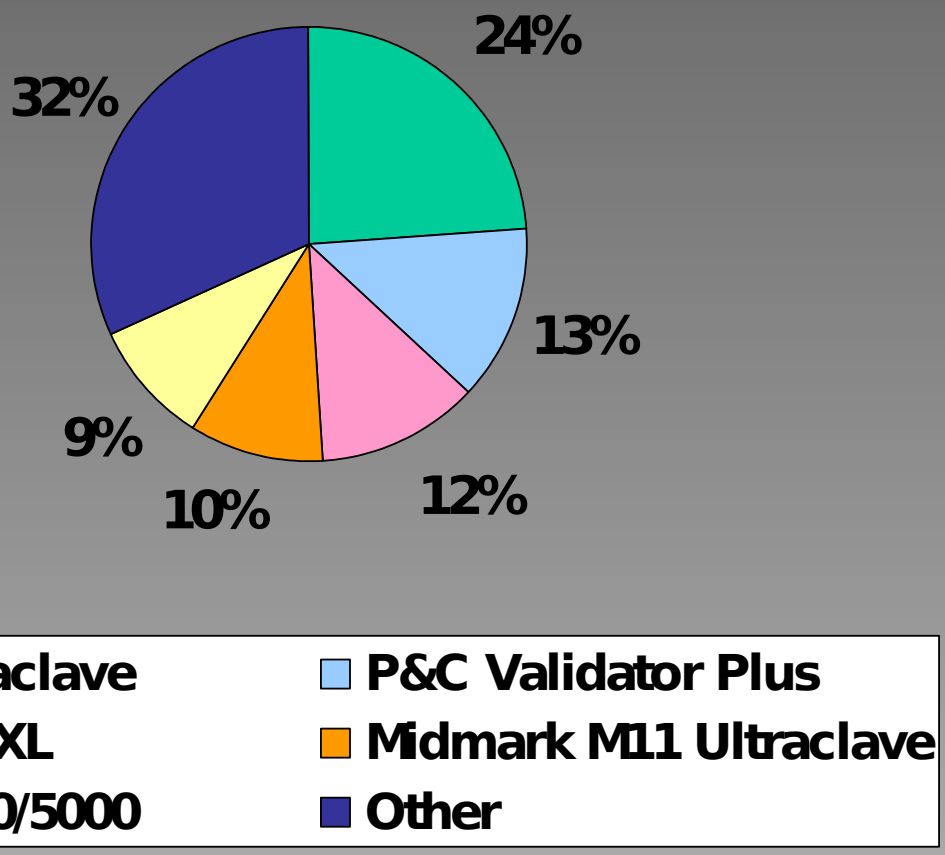
Steam Sterilizers (table-top)



Source: USAF DECS

Market Share by Model

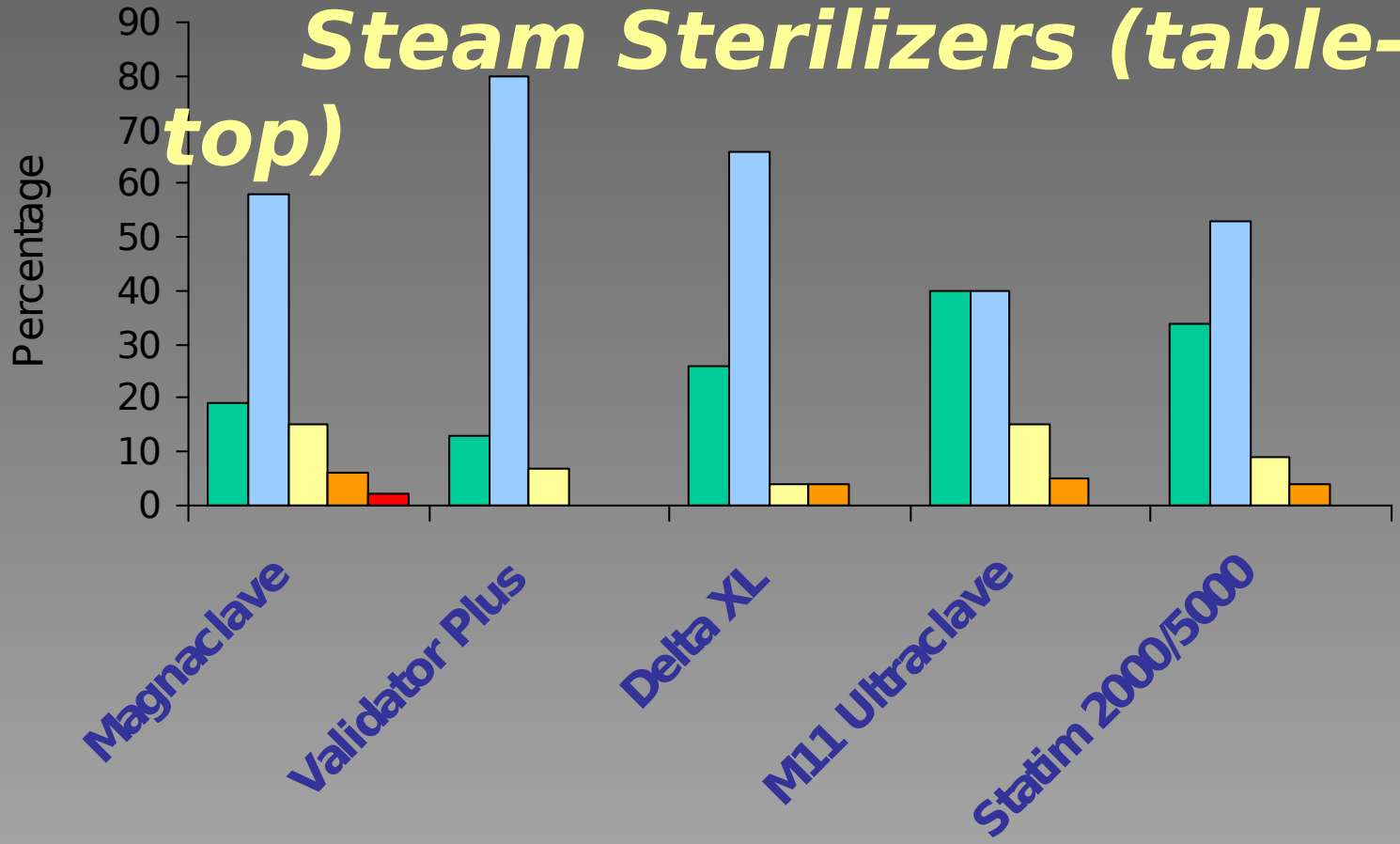
Steam Sterilizers (table-top)



Source: USAF DECS

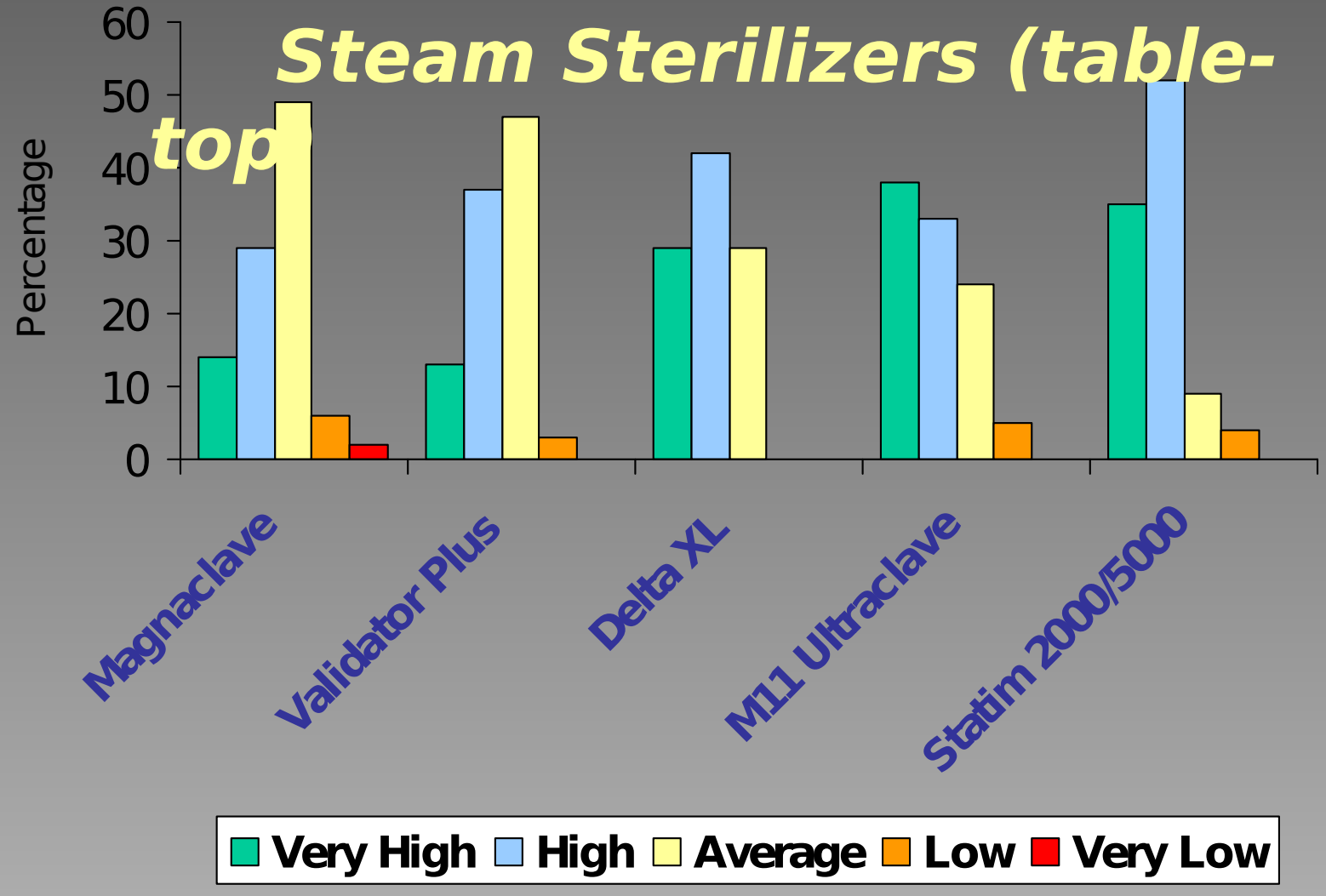
Meets User Needs

Steam Sterilizers (table-top)



Source: USAF DECS

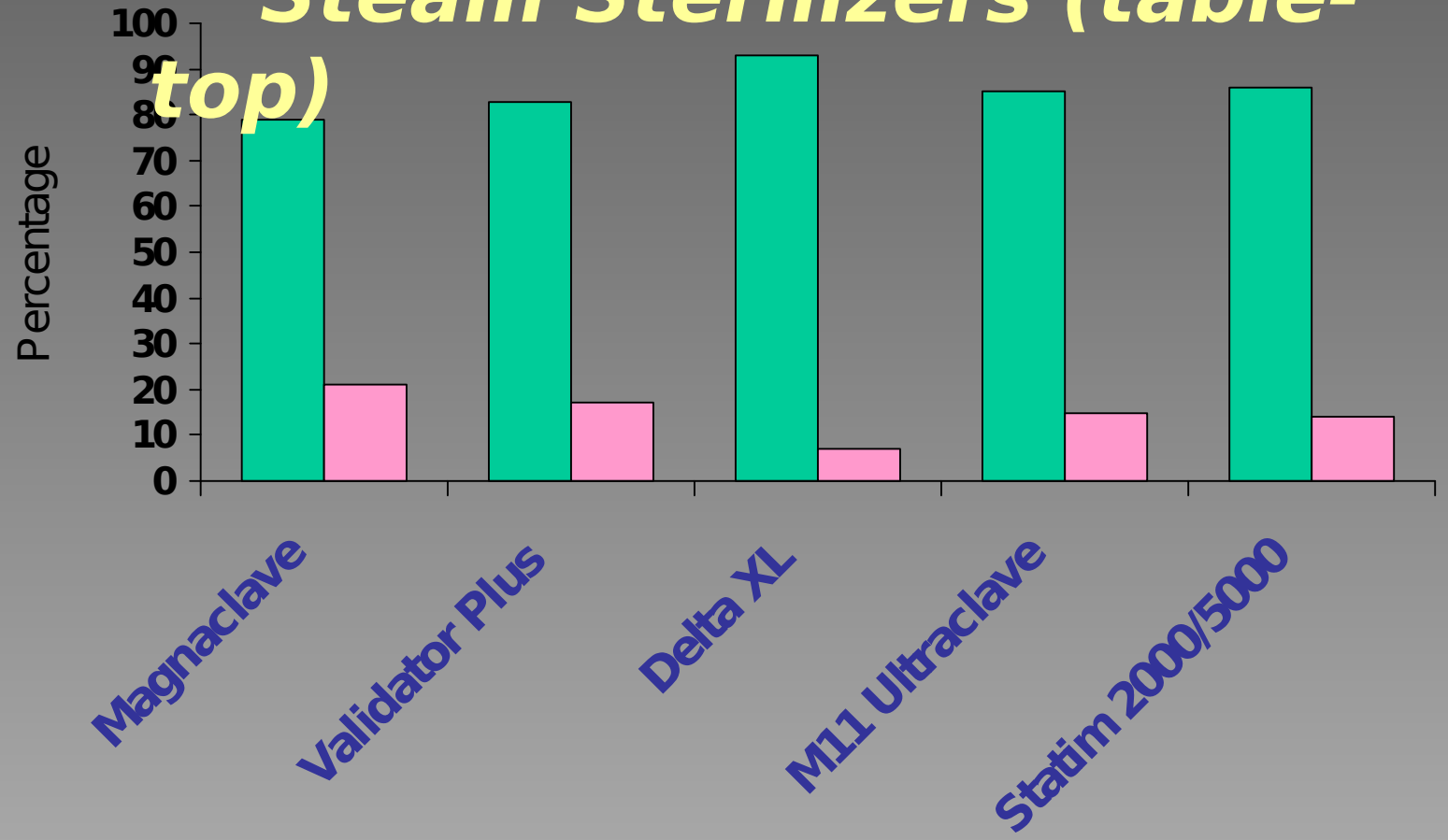
User Satisfaction



Source: USAF DECS

Buy Again?

Steam Sterilizers (table-top)



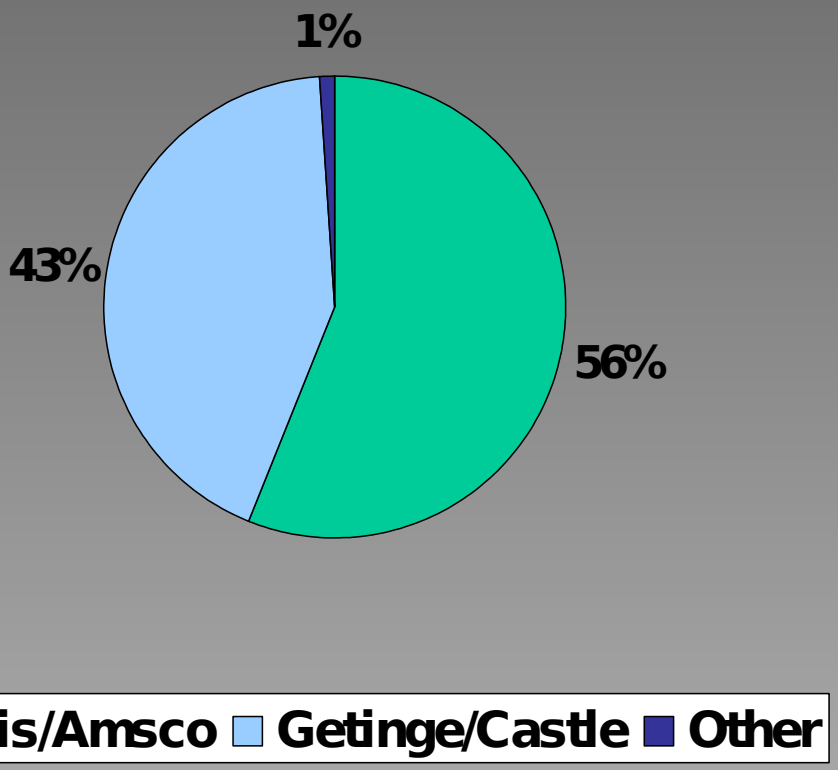
Source: USAF DECS

Steam Sterilizers (floor-standing)

Steris/Amsco has the largest market share (56%), with Getinge/Castle owning most of the remainder (43%). Market Share by Model was not calculated since differences between a specific manufacturer's models were determined to be primarily one of capacity, with other differences being minor. As a result, calculations for User Satisfaction, Buy Again, Meets User's Needs, and Consumer Satisfaction Scores were based on responses per manufacturer, rather than manufacturer model. Both Steris/Amsco and Getinge/Castle received numerous positive written comments. Getinge/Castle received some negative comments pertaining to breakdowns, while Steris/Amsco received negative comments pertaining to breakdowns and the need to repair door seals. The consumer satisfaction scores were Getinge/Castle (+0.99) and Steris/Amsco (+0.93).

Market Share by Company

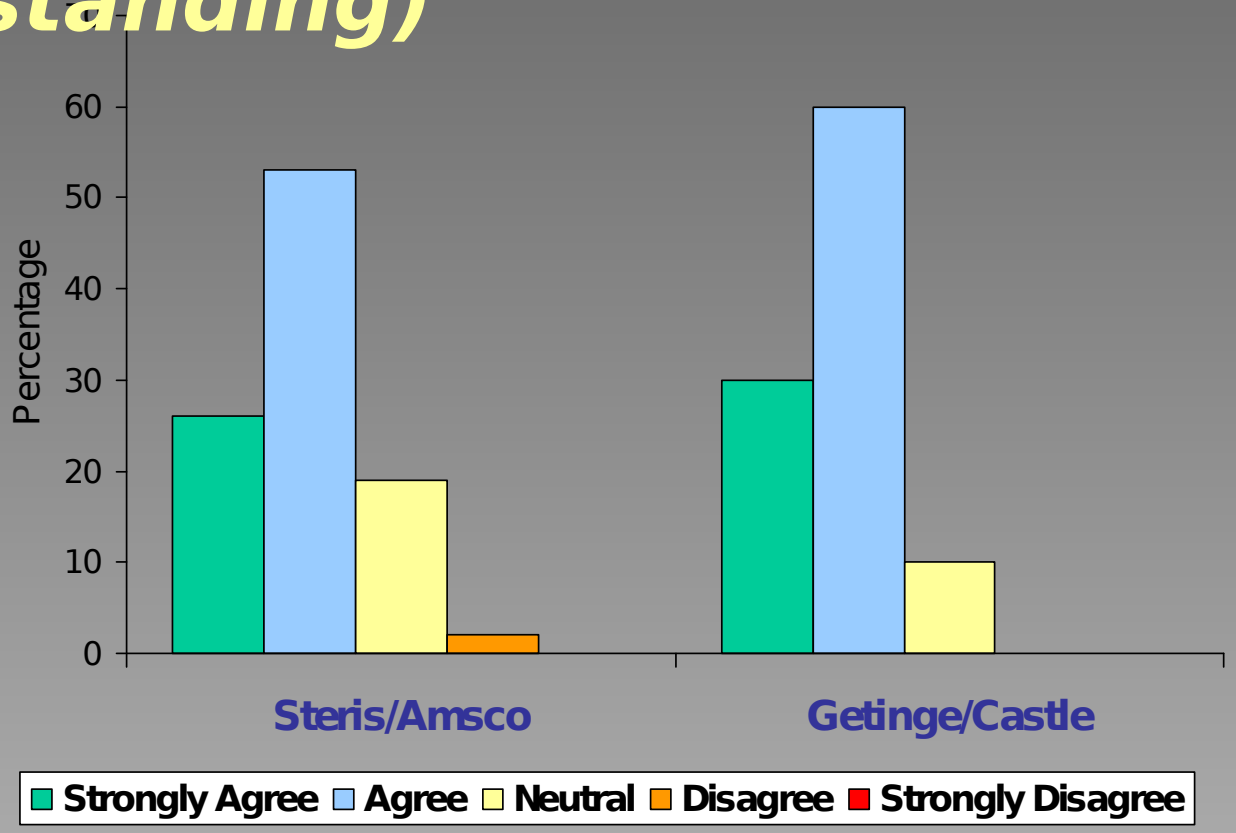
Steam Sterilizers (floor-standing)



Source: USAF DECS

Meets User Needs

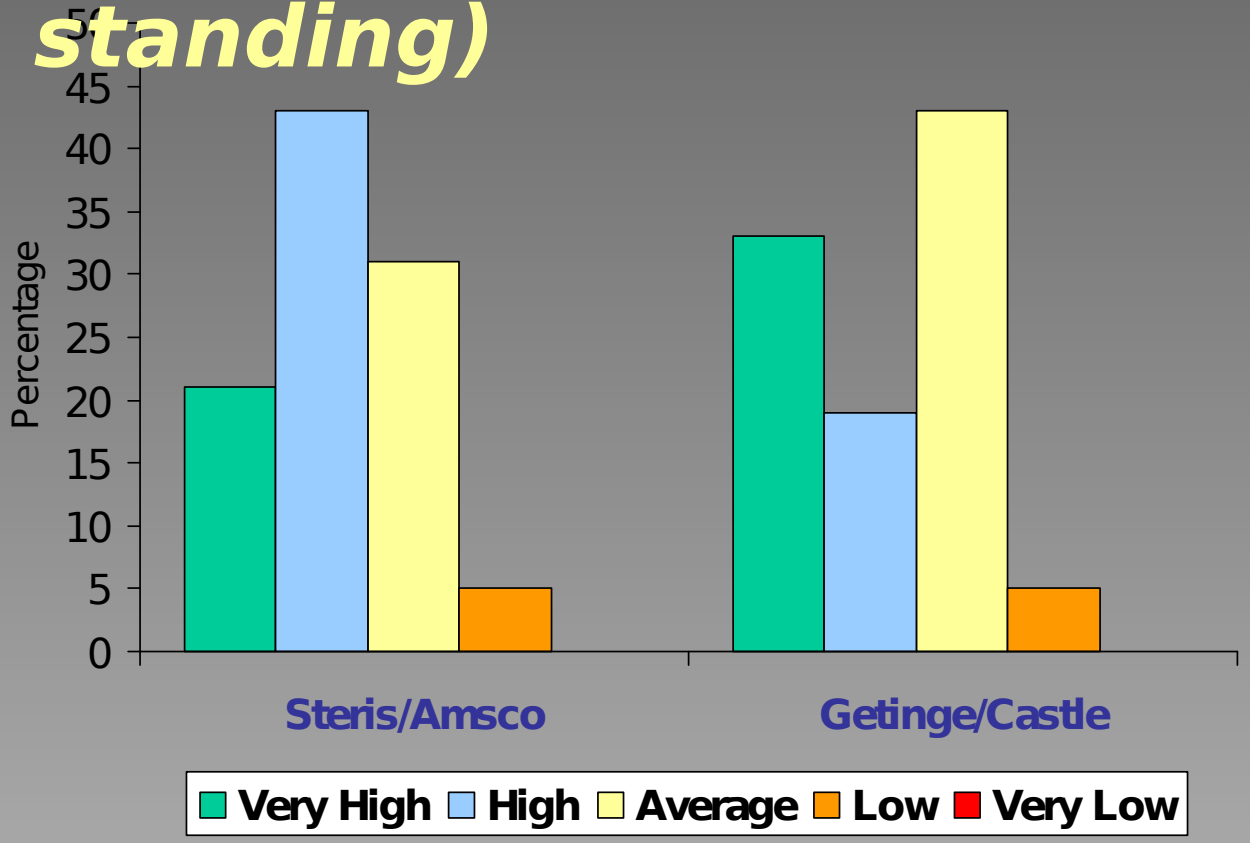
Steam Sterilizers (floor-standing)



Source: USAF DECS

User Satisfaction

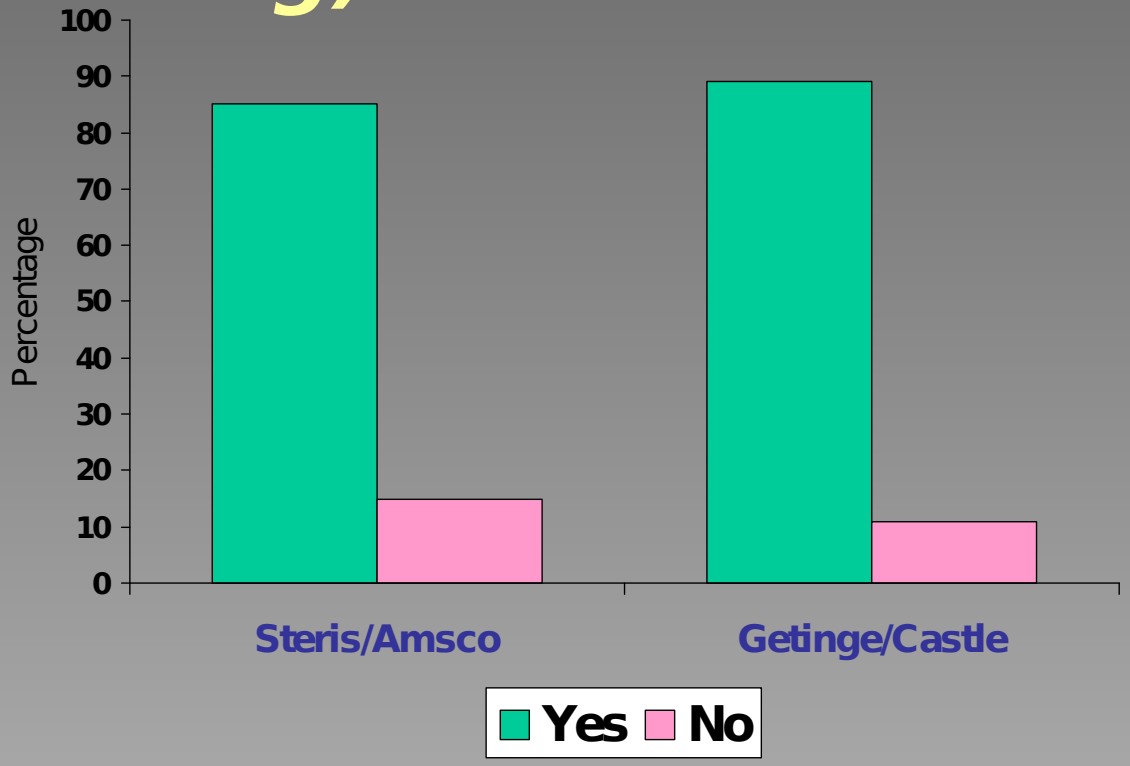
Steam Sterilizers (floor-standing)



Source: USAF DECS

Buy Again?

Steam Sterilizers (floor-standing)



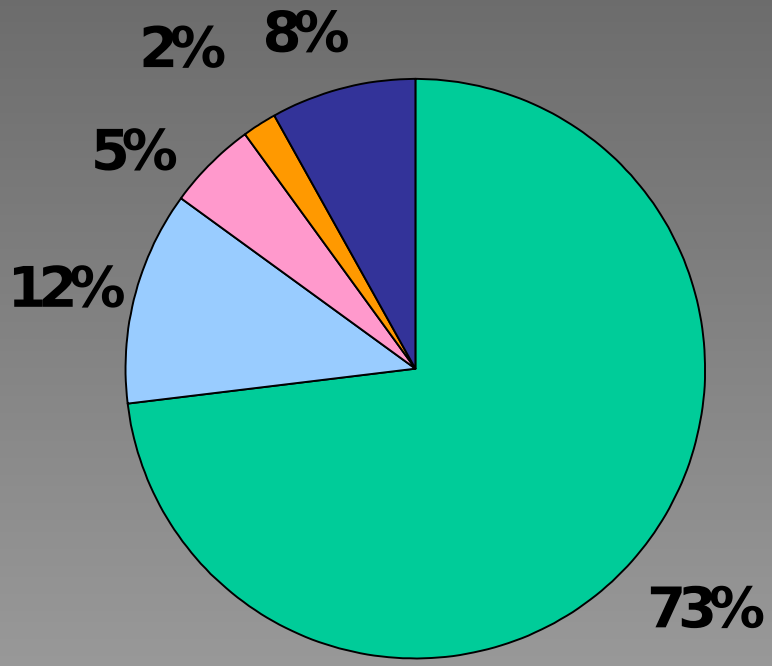
Source: USAF DECS

Ultrasonic/sonic Scalers

Cavitron has the largest market share (73%), followed by Star/DentalEZ (12%), Electro Medical Systems (5%), and Parkell (2%). The four most common models were the Cavitron SPS/Sustained Performance System (32%), the Cavitron JET with SPS technology (16%), the Star SW Plus scaler (11%), and the EMS Piezon Master 400 (5%). Respondents rated both the Cavitron SPS and the Cavitron JET with SPS technology highly, but preferred the Cavitron JET with SPS due to its air polishing system. The medicament dispensing system of the Piezon Master 400 was appreciated but respondents stated the manufacturer was the only authorized dealer in obtaining parts. The Star SW Plus sonic scaler was appreciated for its ability to be configured with dental delivery systems. The consumer satisfaction scores were Cavitron JET with SPS technology (+1.26), Cavitron SPS (+1.10), EMS Piezon Master 400 (+1.02), and the Star SW Plus sonic scaler (+0.97).

Market Share by Company

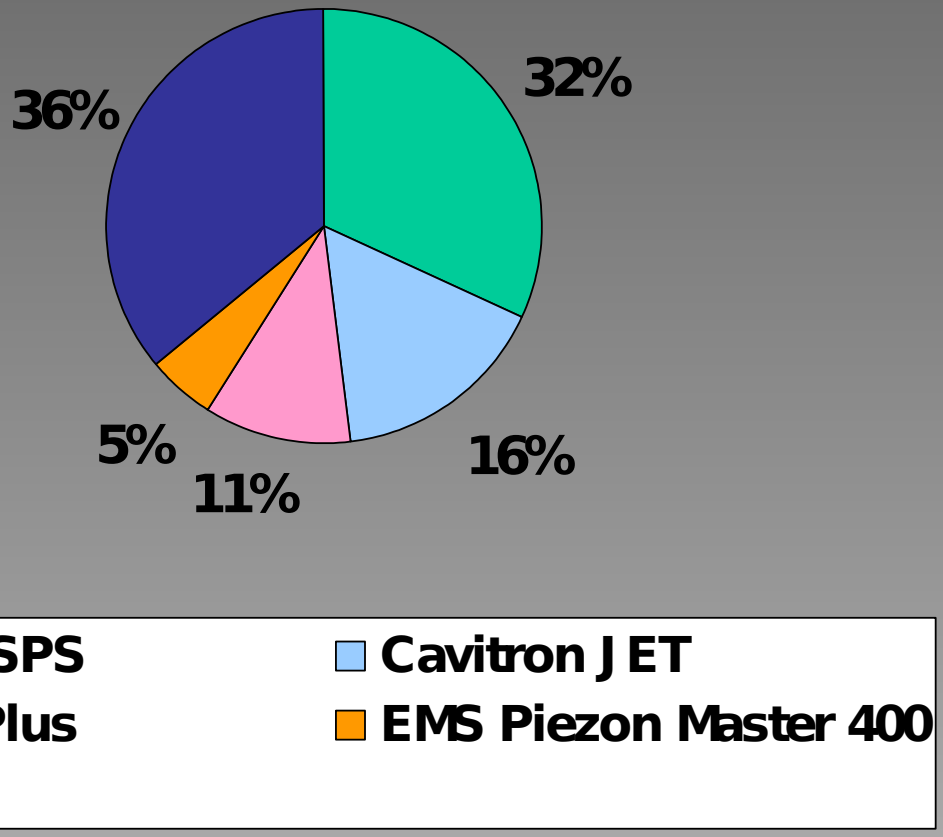
Ultrasonic/sonic Scalers



Source: USAF DECS

Market Share by Model

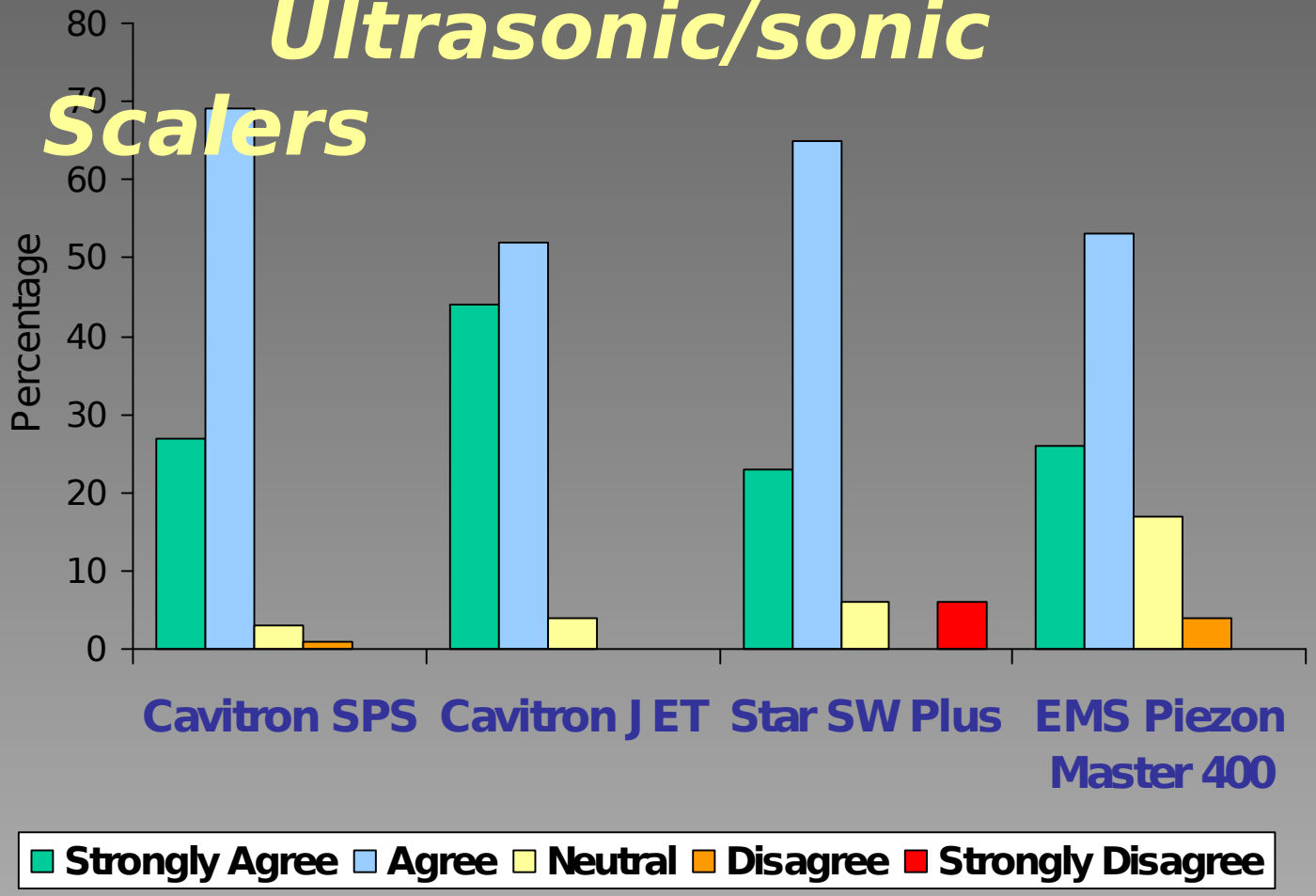
Ultrasonic/sonic Scalers



Source: USAF DECS

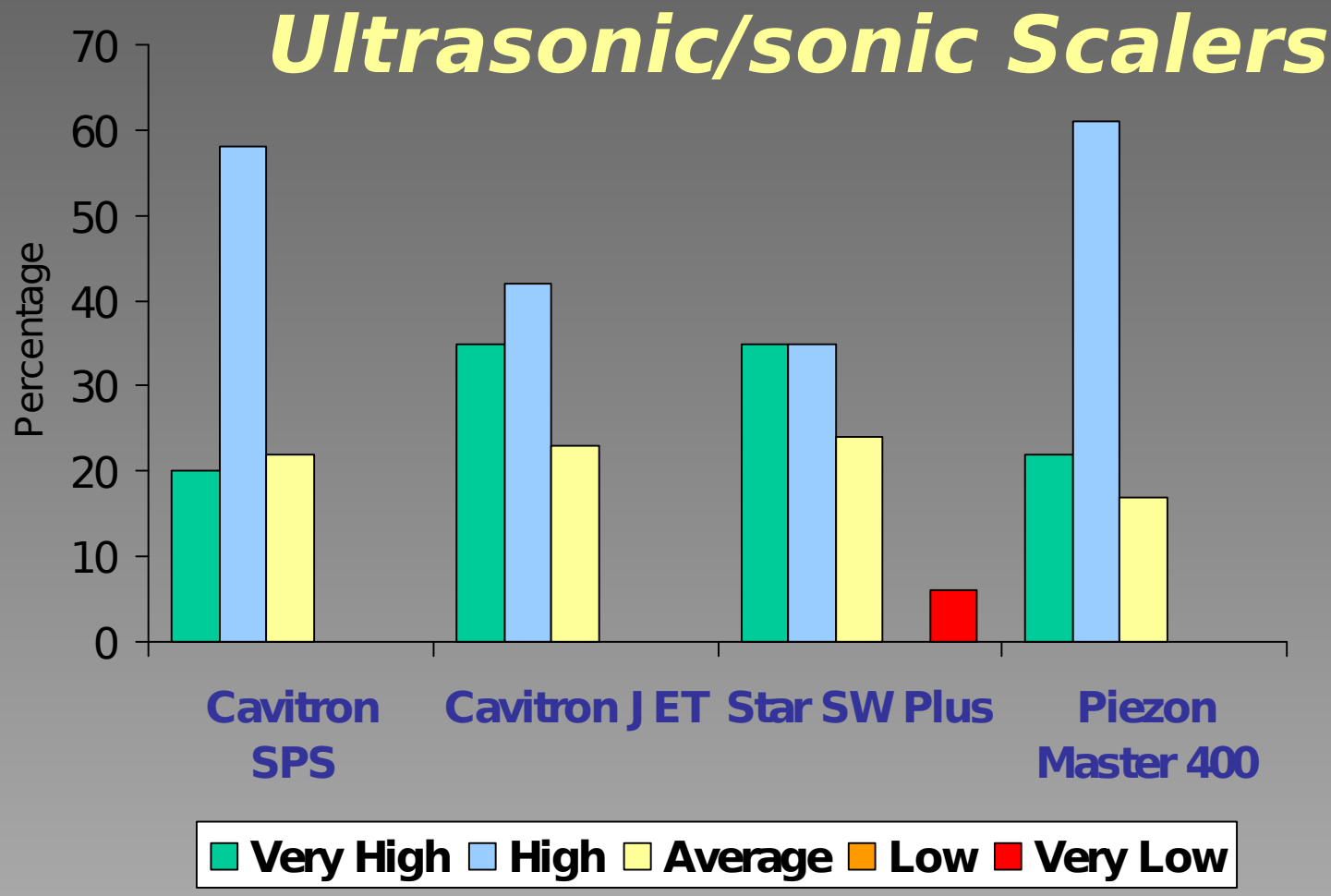
Meets User Needs

Ultrasonic/sonic Scalers



Source: USAF DECS

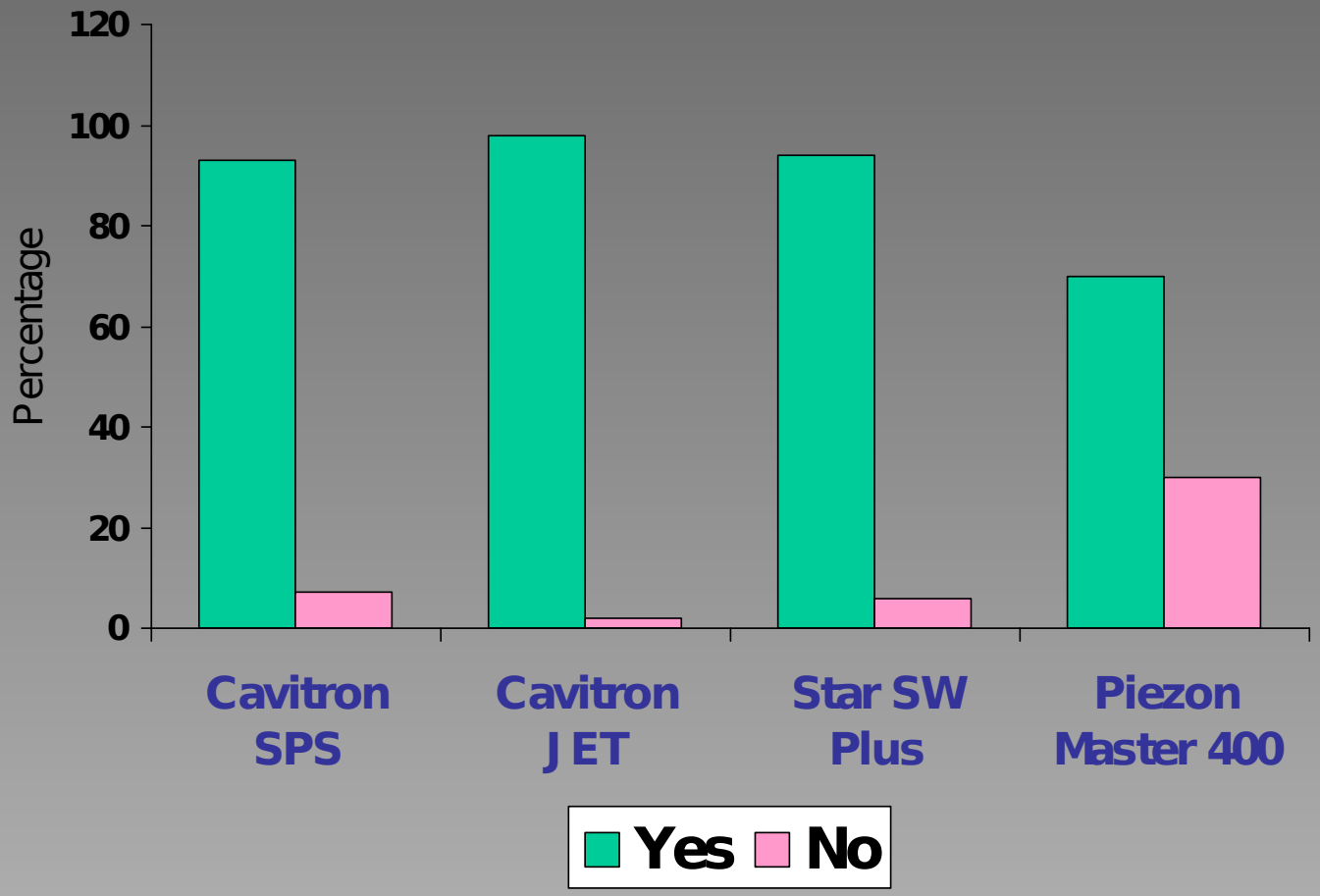
User Satisfaction



Source: USAF DECS

Buy Again?

Ultrasonic/sonic Scalers



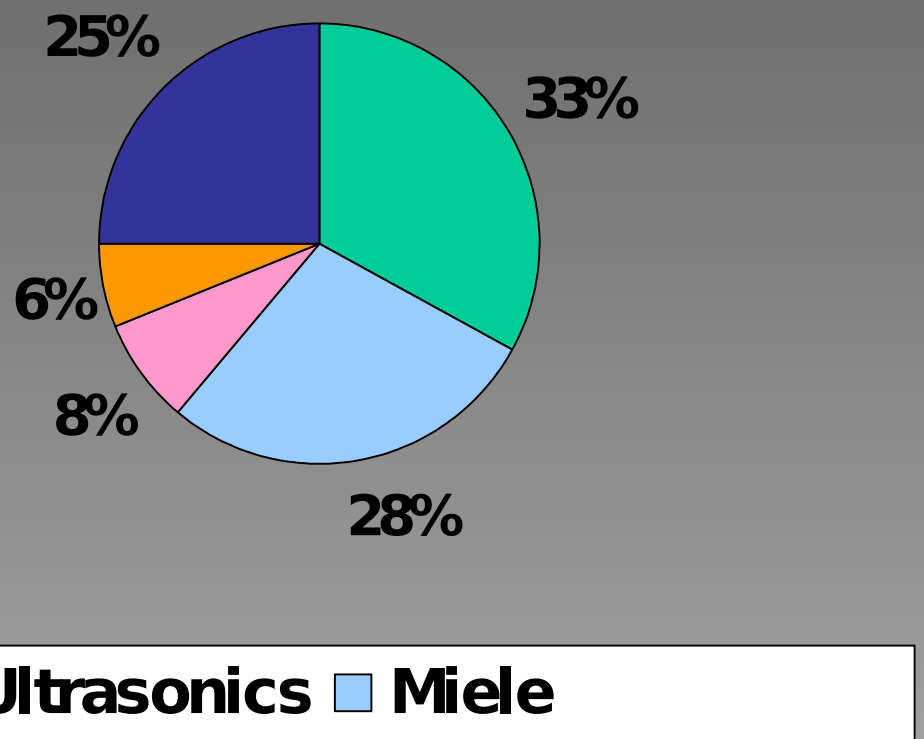
Source: USAF DECS

Instrument Washers/Disinfectors

Over half of the responding facilities reported using an ultrasonic cleaner and did not have an instrument washer or thermal disinfector. When the categories of ultrasonic cleaners and instrument washers/disinfectors were grouped together the largest market share by company was owned by L & R Ultrasonics (33%), followed by Miele (28%), Steris/Amsco (8%), and Getinge/Castle (6%). Most L&R Ultrasonic cleaners were of the Quantrex line and most Miele thermal disinfectors were Miele G7781 Professional. Since specific models were not forwarded by many of the respondents, Market Share by Model was not calculated. Likewise, User Satisfaction and Buy Again comparisons were made between manufacturers, rather than between models. Most of the negative responses for all manufacturers pertained to frequent breakdowns/downtime, with Getinge/Castle having the fewest negative responses. Respondents stated Getinge/Castle provided the best technical support, followed by Steris/Amsco. The consumer satisfaction scores for manufacturers of thermal disinfectors were Getinge/Castle (+1.23), Miele (+0.82), Steris/Amsco (+0.74)

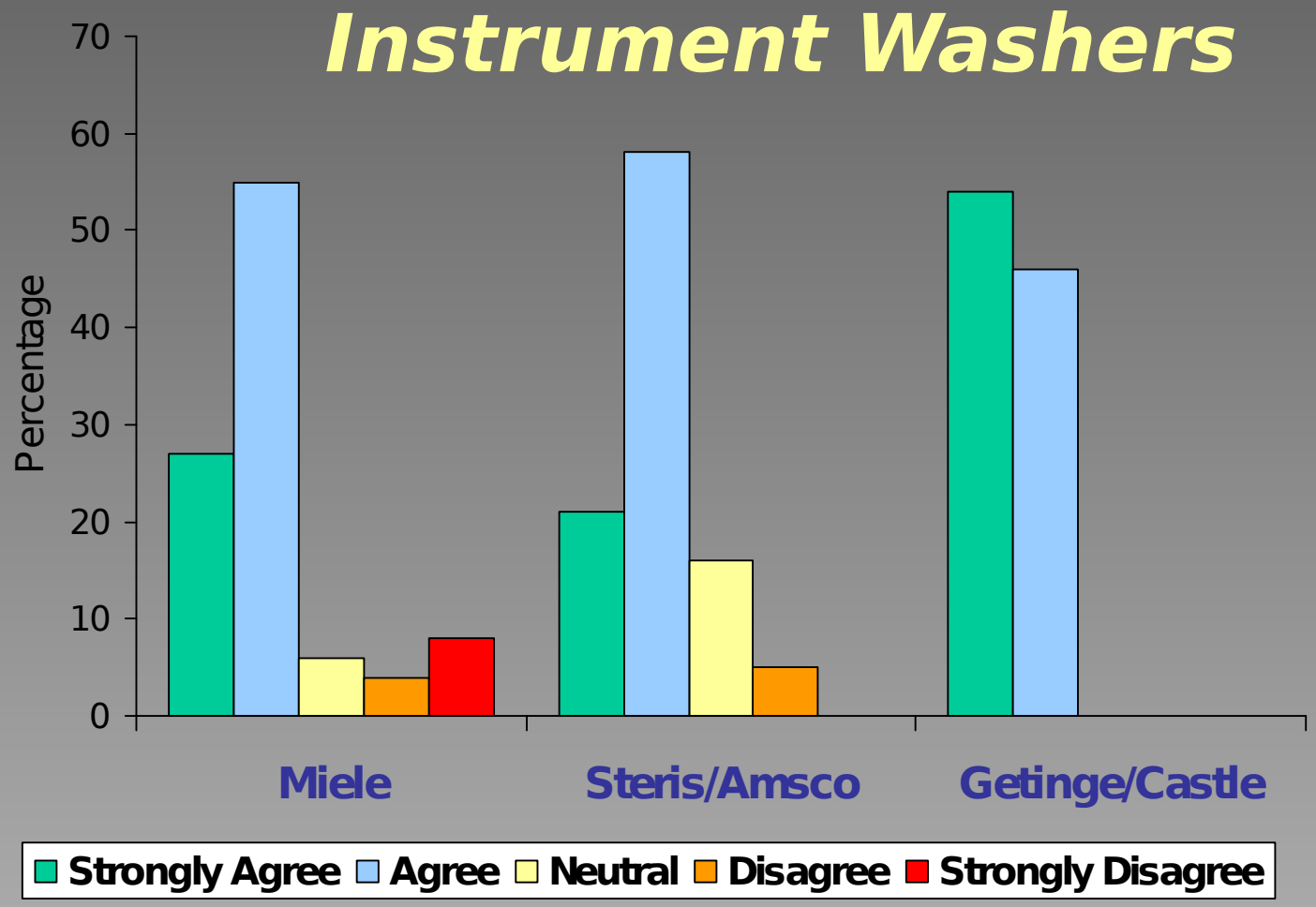
Market Share by Company

Instrument Washers



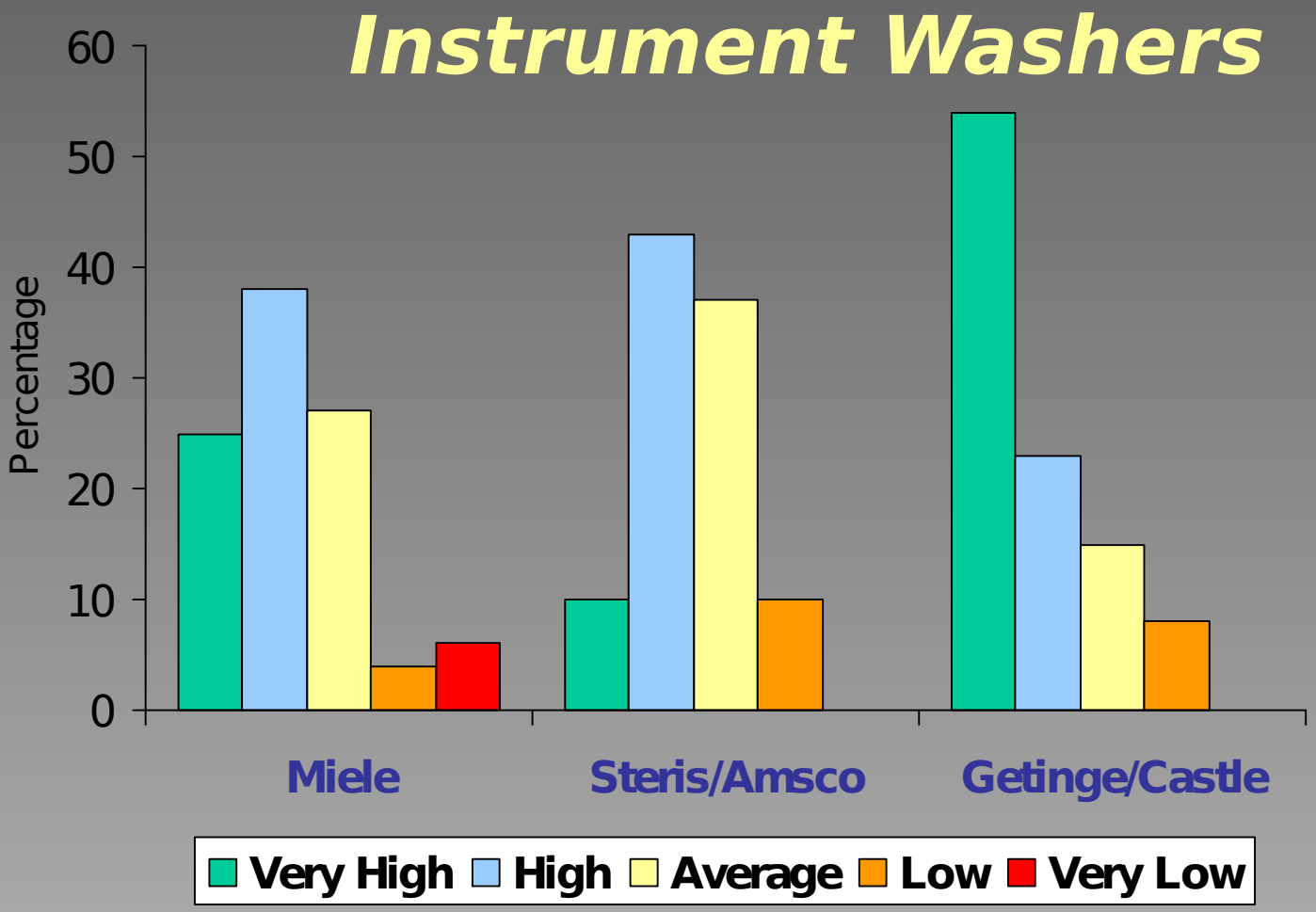
Source: USAF DECS

Meets User Needs



Source: USAF DECS

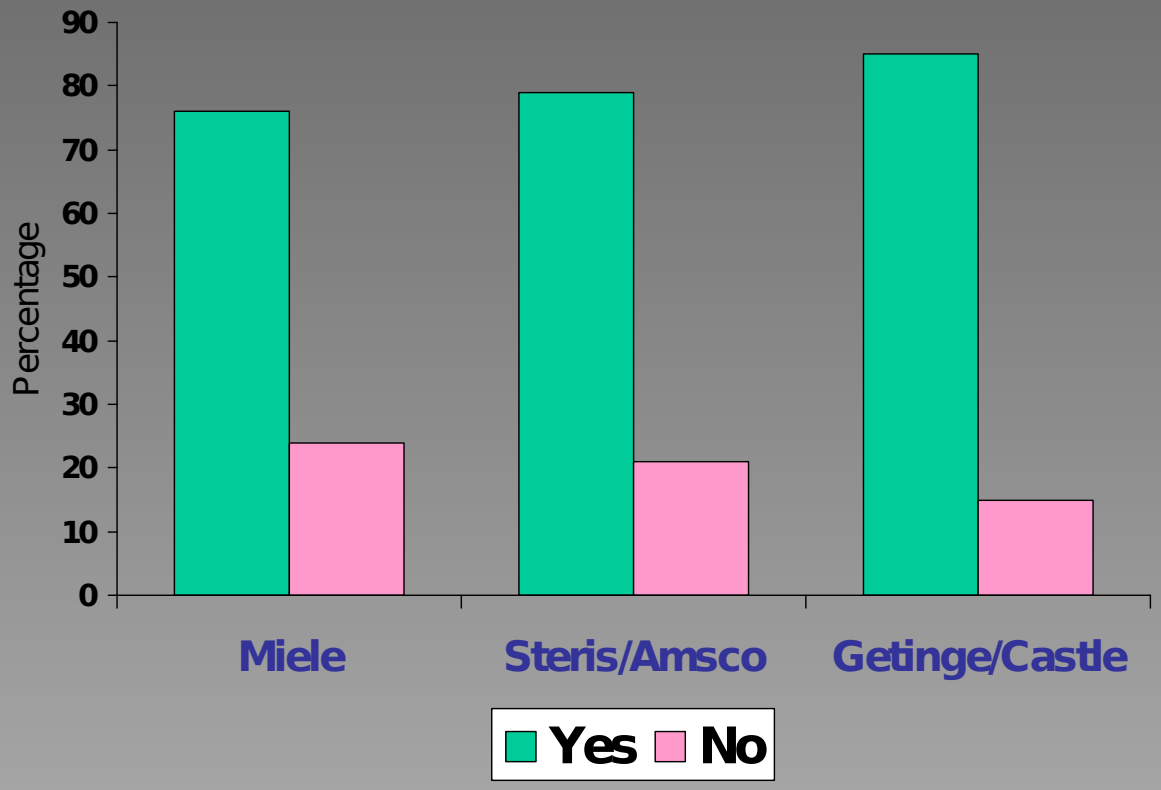
User Satisfaction



Source: USAF DECS

Buy Again?

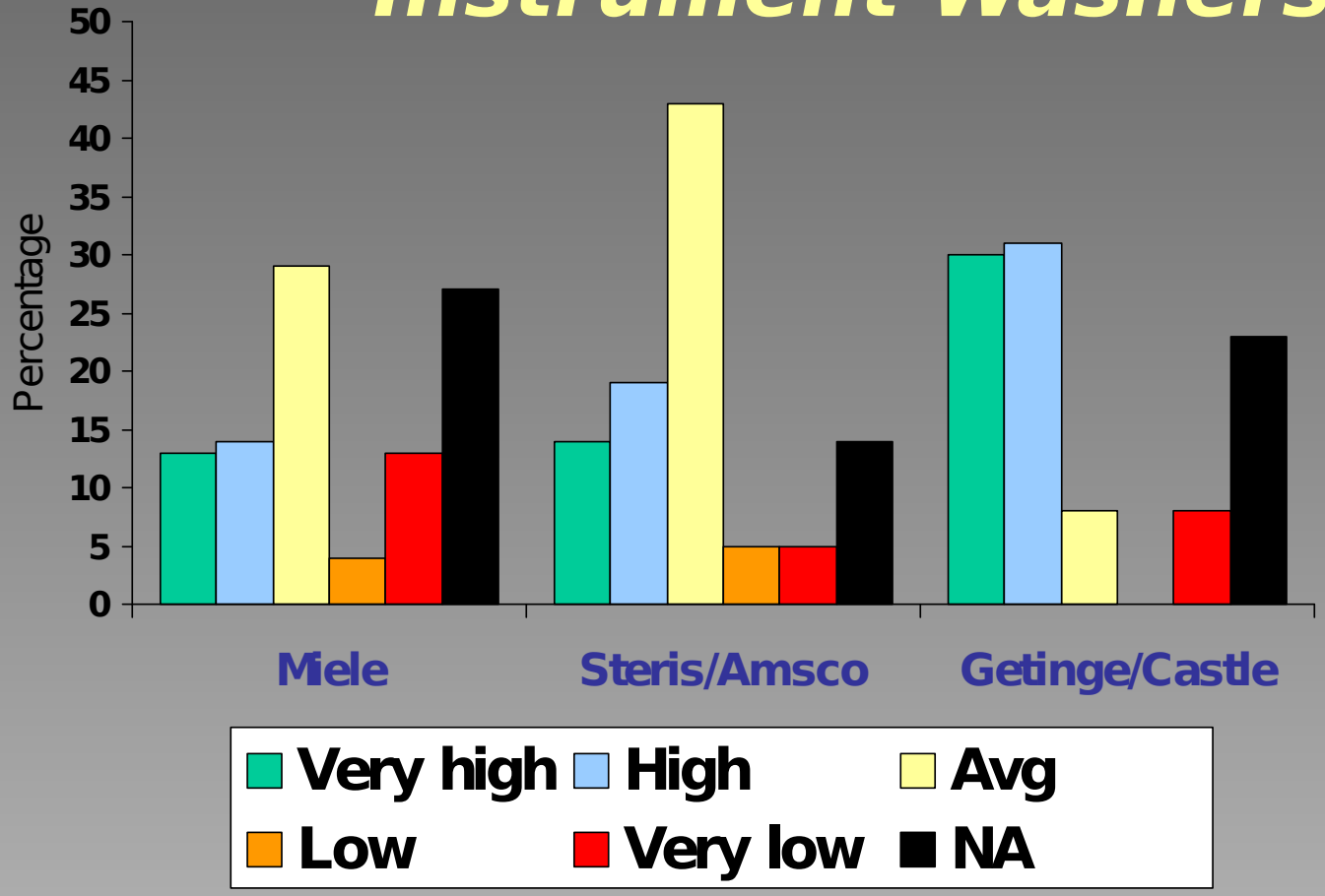
Instrument Washers



Source: USAF DECS

Technical Support Rating

Instrument Washers



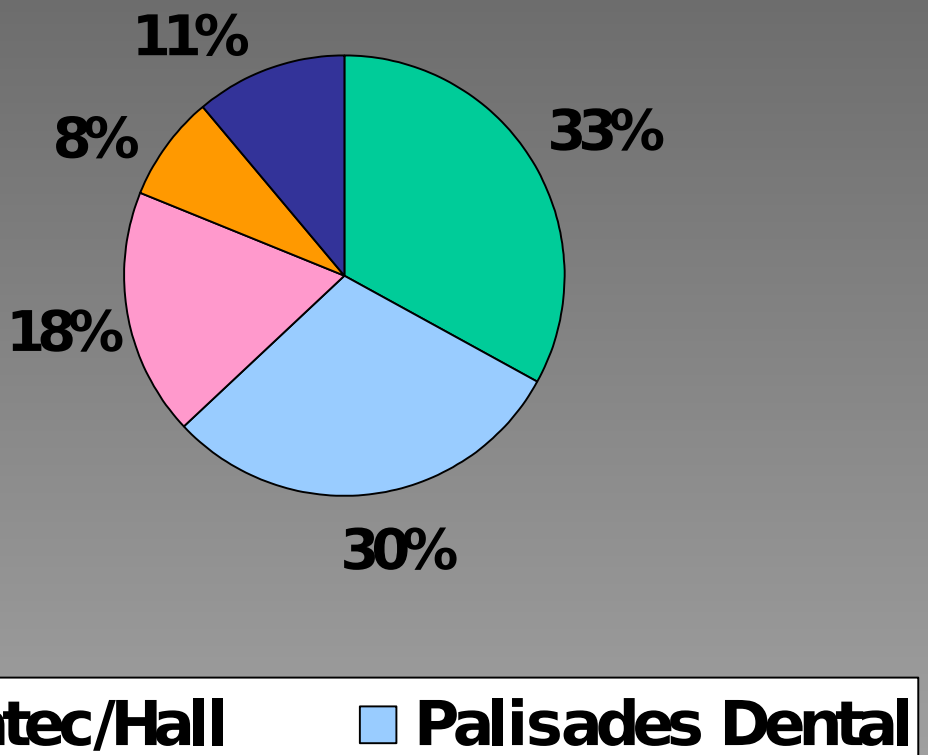
Source: USAF DECS

Surgical Handpieces

Linvatec/Hall has the largest market share (33%), followed by Palisades Dental (30%), Stryker (18%), and OsteoMed (8%). The most common model was Palisades Impact Air (30%), followed by Linvatec/Hall Surgairtome II (29%), Stryker Command II (17%), and OsteoMed Osteopower 2i (8%). The Palisades Impact Air is an air-turbine handpiece, the Surgairtome II is pneumatic, and the Command II and Osteopower 2i are electric. The Impact Air is included here since so many respondents referred to it as a surgical handpiece. However, the FDA has approved it for endodontics and periodontics, but not for oral surgery. It does not offer a sterile irrigation system. The Surgairtome was cited for its reliability and high torque, but the requirement for nitrogen tanks was a negative. The Stryker Command II is no longer sold and has been replaced with the CORE Impaction Drill. The Osteopower 2i had high ratings and generally positive comments. The consumer satisfaction scores were OsteoMed Osteopower 2i (+1.22), Linvatec/Hall SurgAirTome II (+1.08), Stryker Command II (+1.01), and Palisades Impact Air

Market Share by Company

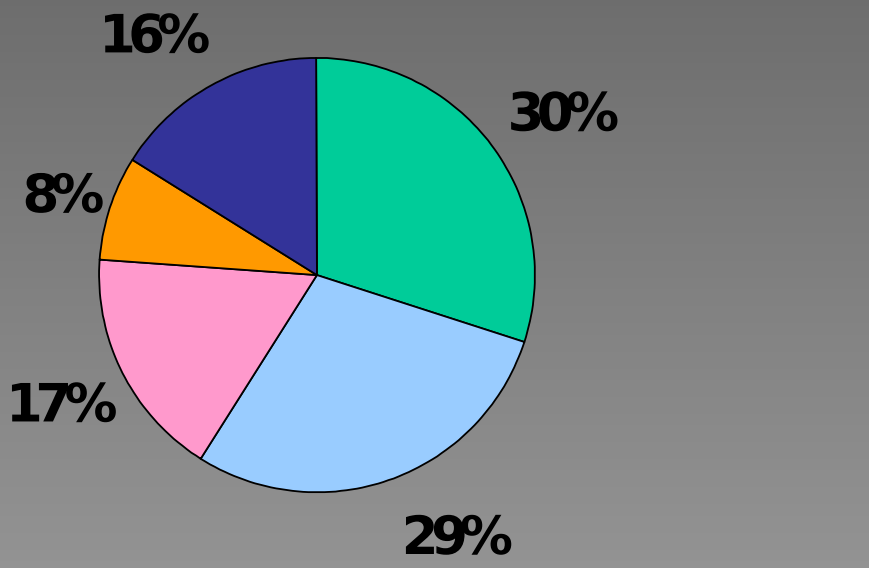
Surgical Handpieces



Source: USAF DECS

Market Share by Model

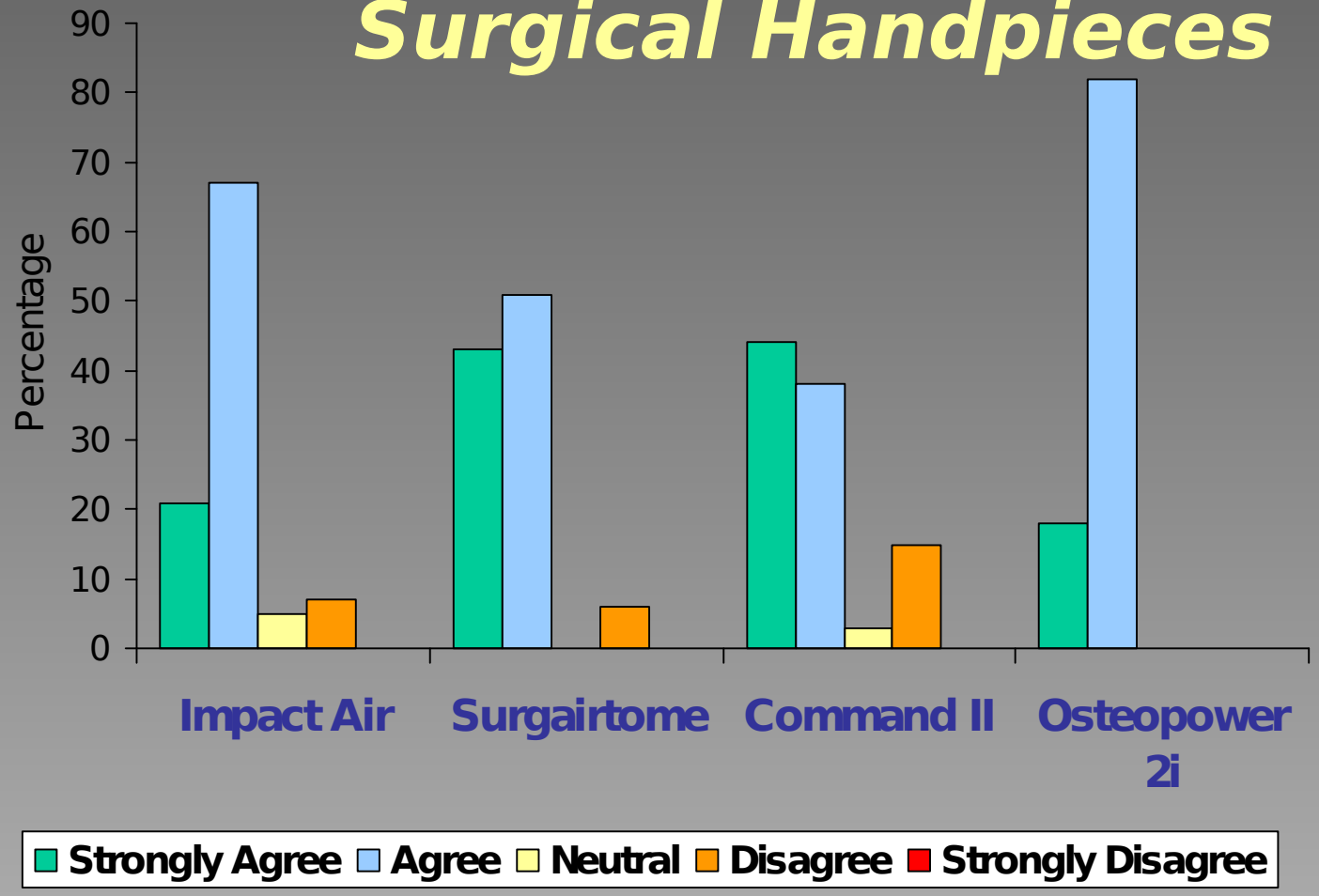
Surgical Handpieces



Source: USAF DECS

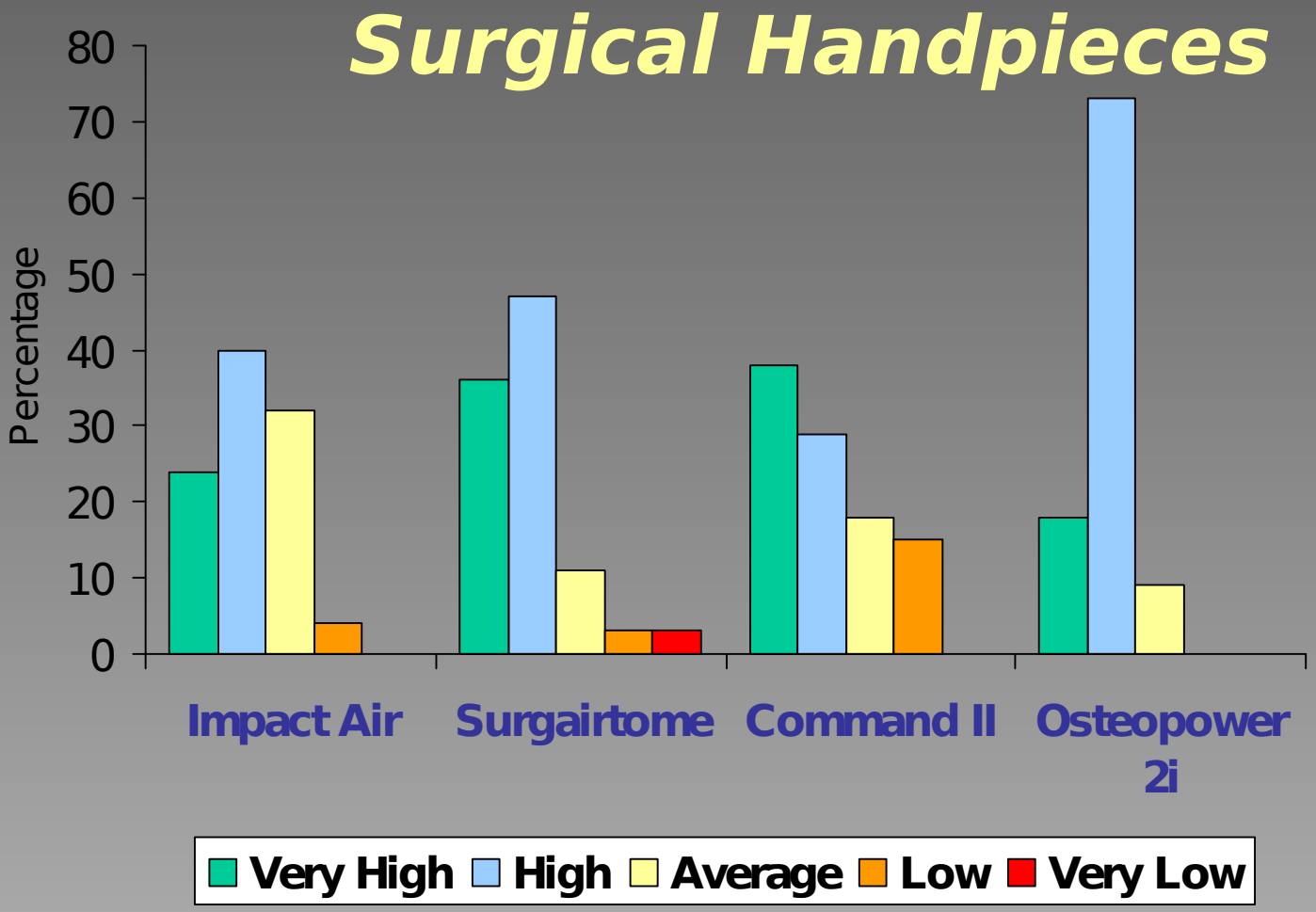
Meets User Needs

Surgical Handpieces



Source: USAF DECS

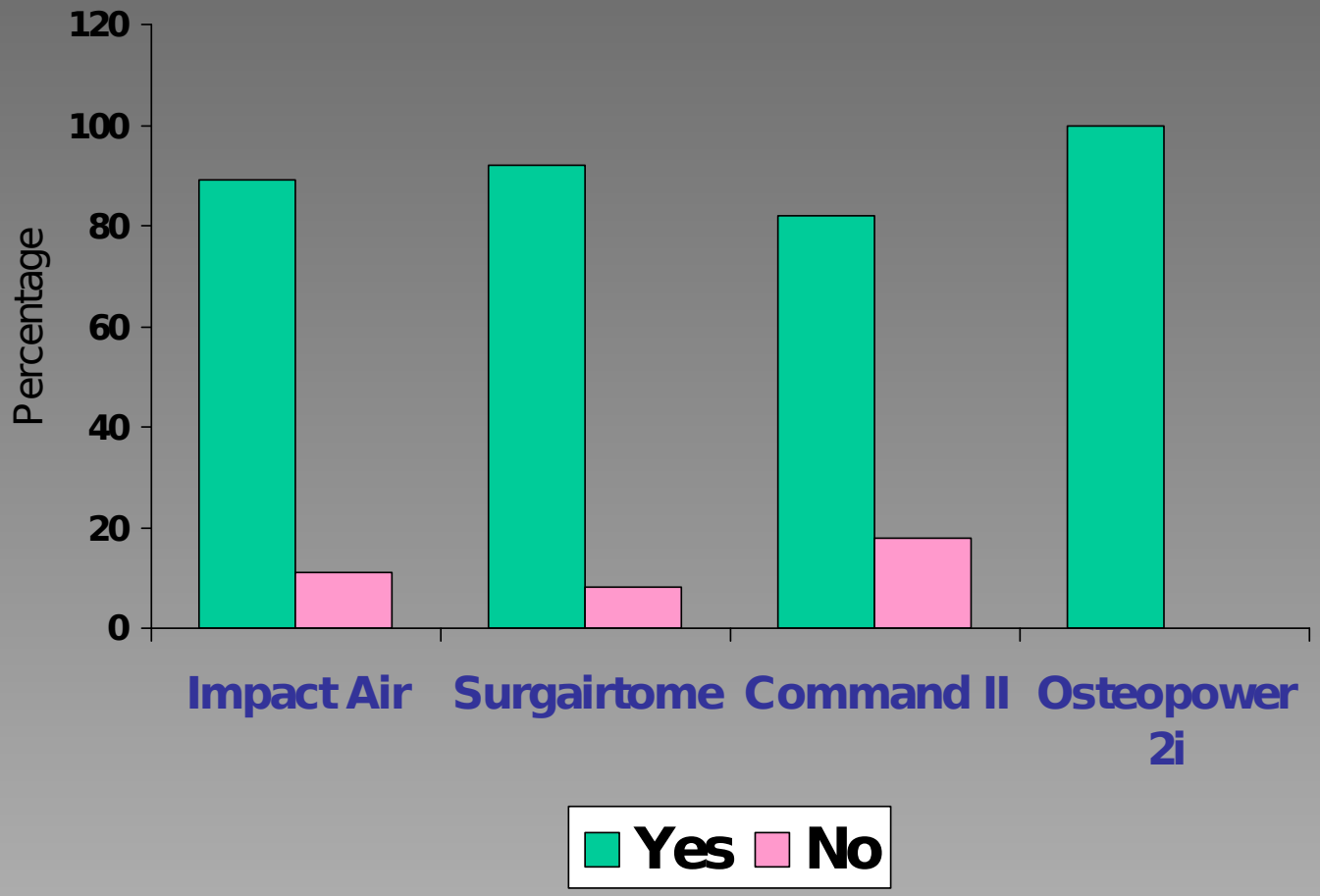
User Satisfaction



Source: USAF DECS

Buy Again?

Surgical Handpieces



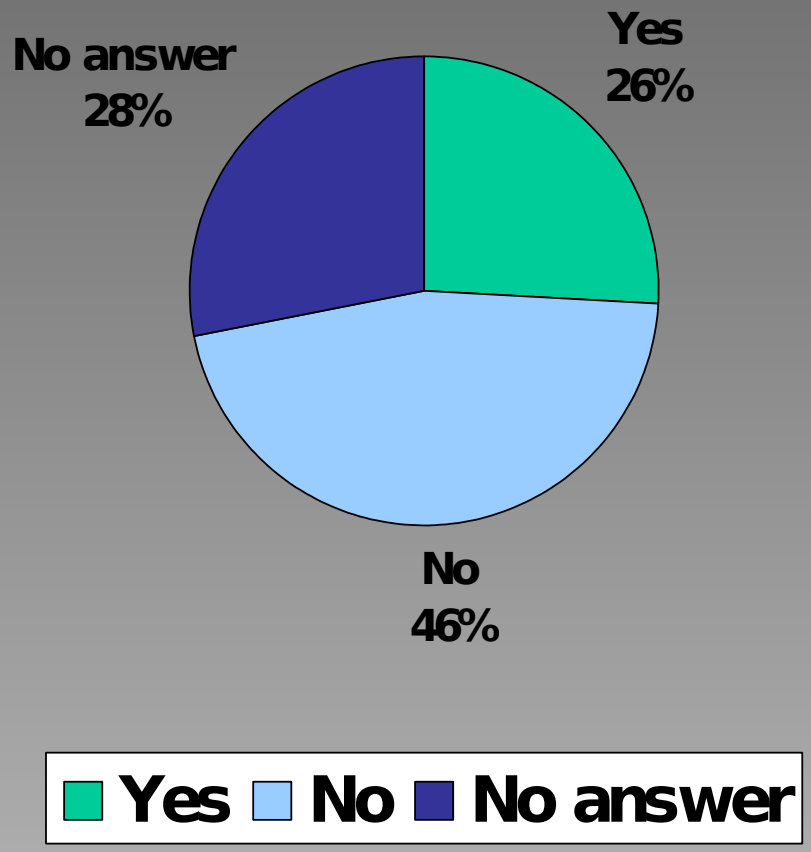
Source: USAF DECS

Digital Radiography

Of the 274 survey respondents, 26% stated they were using digital radiography, 46% stated they did not use digital radiography, and 28% did not respond to this section of the survey, presumably because they were not using digital radiography. Of those respondents who were using digital radiography, Shick (CDR sensor/Shick software) had the largest market share (41%), followed by Planmeca (Dixi 3 sensor/Dimax software) at 30%, and Sirona (Sidexis) at 6%. The consumer satisfaction scores were Planmeca (+1.10), Shick (+0.81).

Currently using *Digital Radiography?*

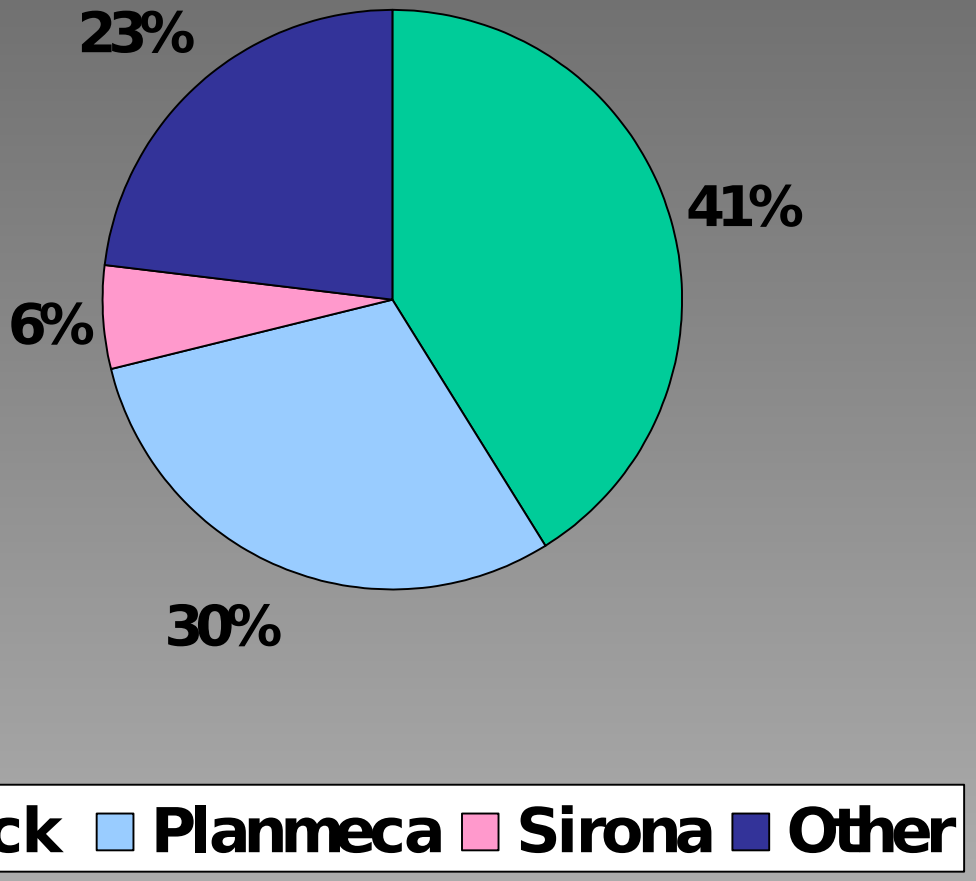
Of those responding to the survey …



Source: USAF DECS

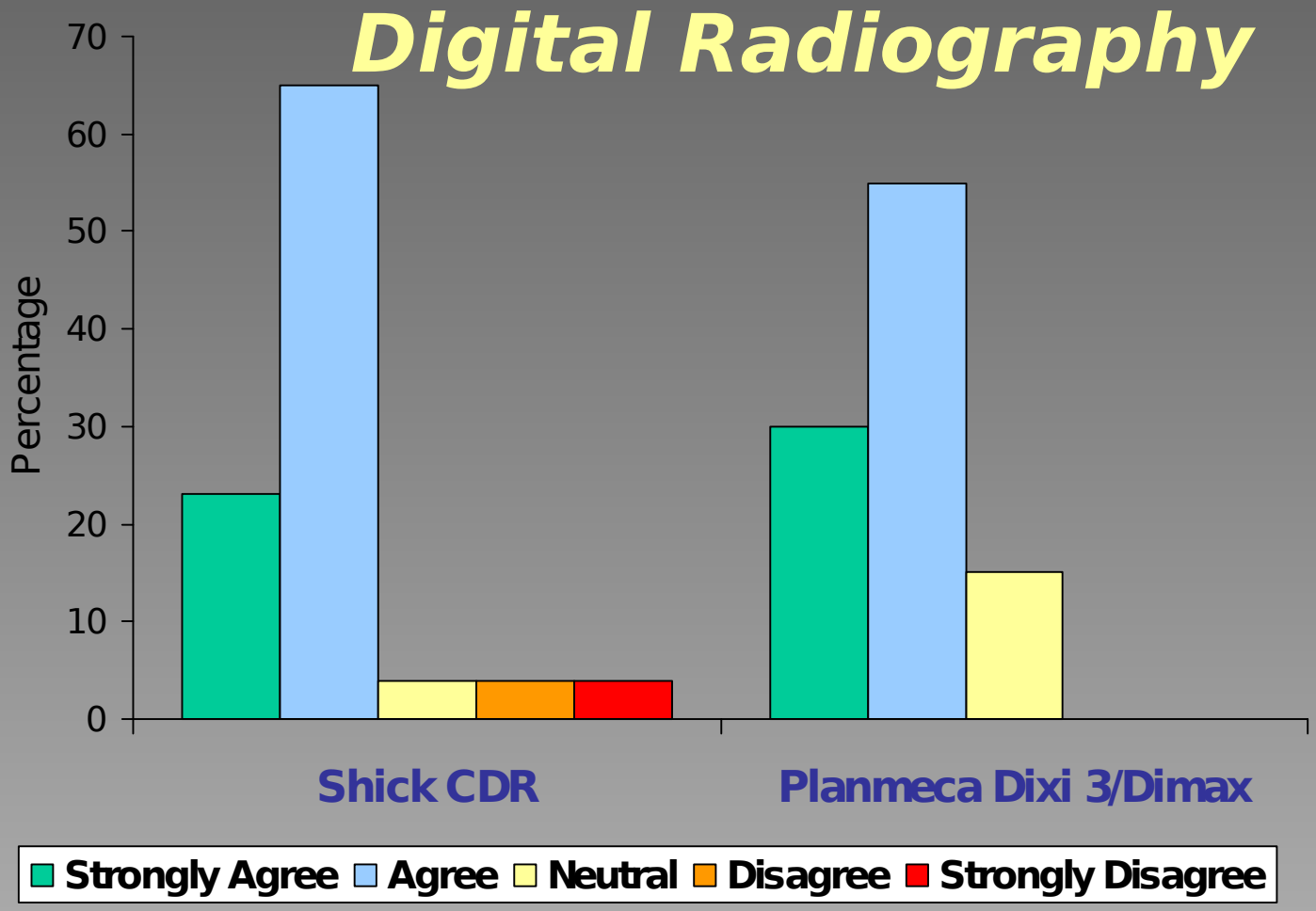
Market Share by Company

Digital Radiography



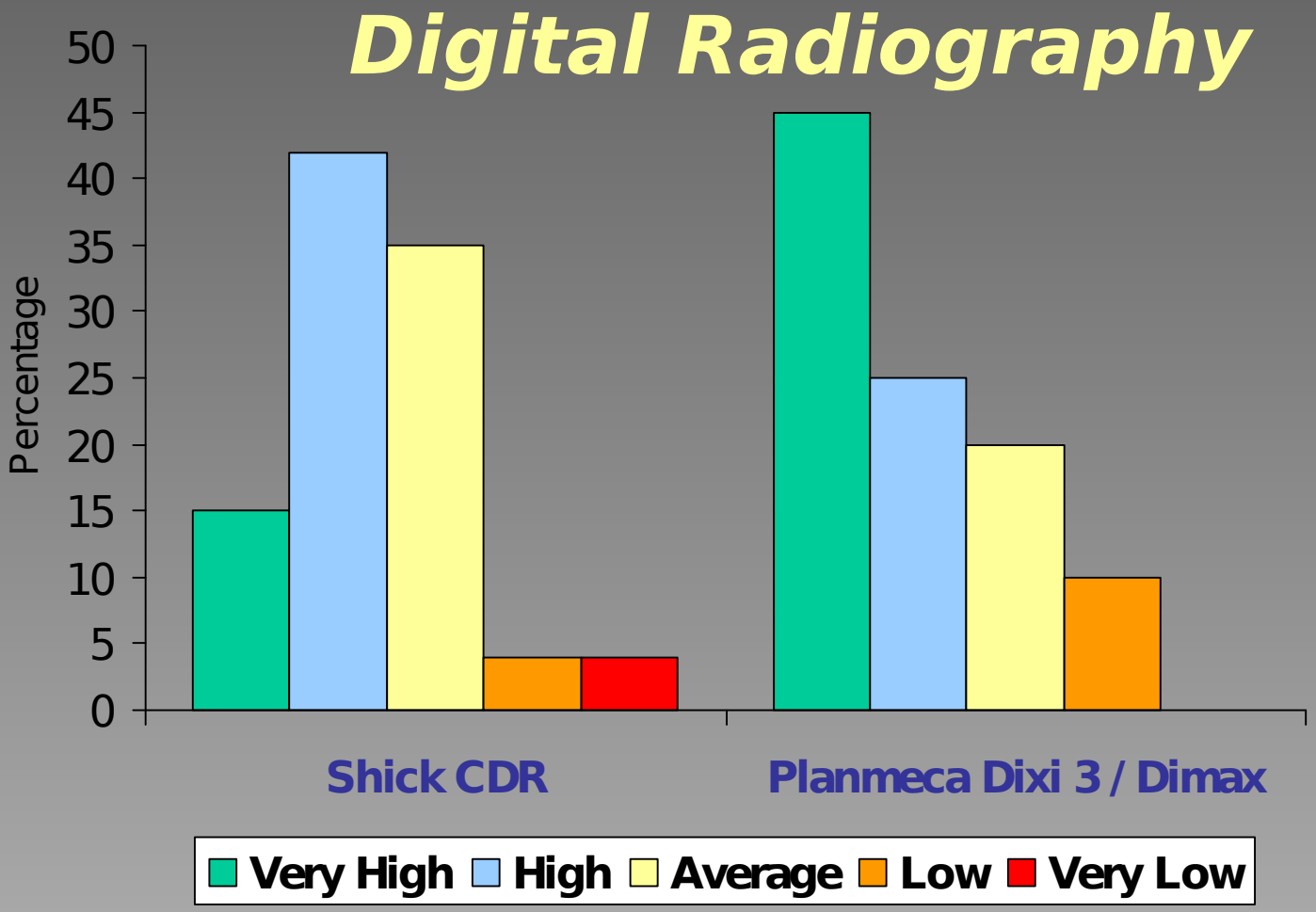
Source: USAF DECS

Meets User Needs



Source: USAF DECS

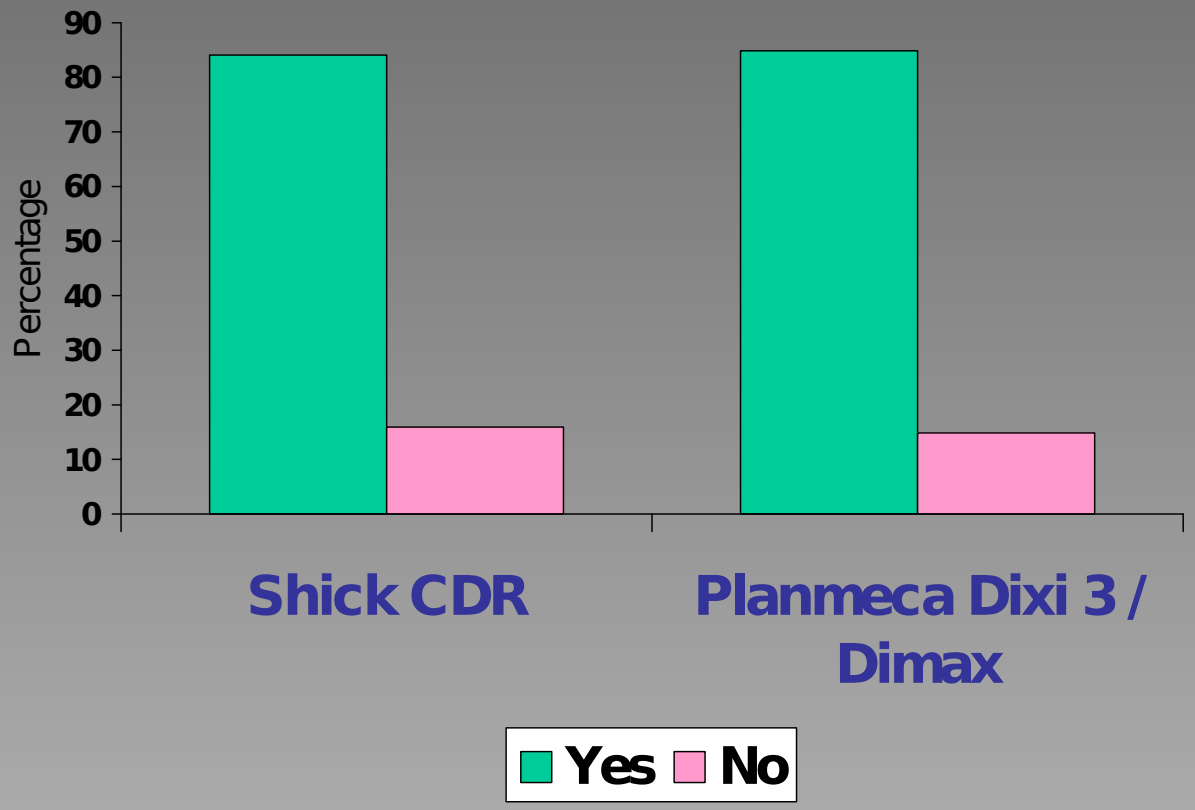
User Satisfaction



Source: USAF DECS

Buy Again?

Digital Radiography

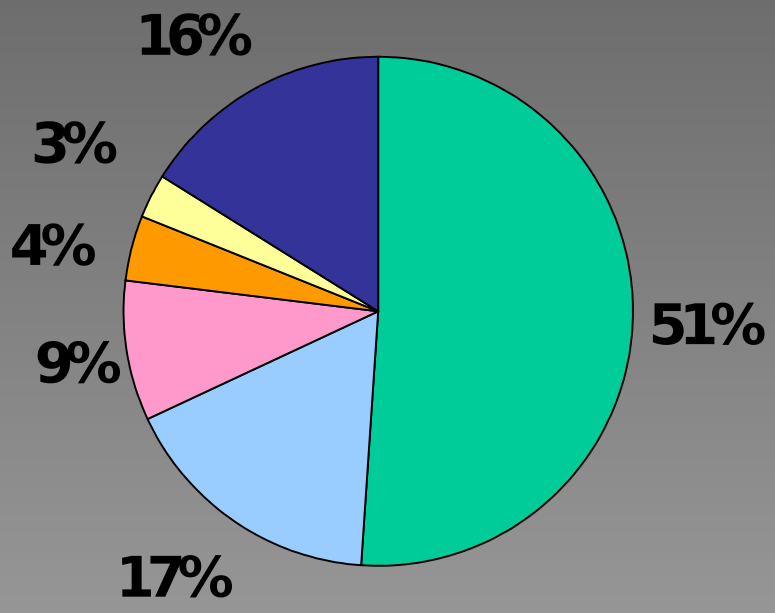


Source: USAF DECS

Of the 274 survey respondents, 53% stated their clinic used rotary endodontics, 16% stated they did not, and 31% did not respond to this section of the survey, presumably because they did not have rotary endodontic equipment. Aseptico has the largest market share (51%), followed by Tulsa Dental (17%), Sybron Endo (13%), Nouvag (4%), and JMorita (3%). Aseptico manufactures some of the units sold by Dentsply and Tulsa Dental. The most prevalent models are the Aseptico ITR / Intelligent Torque Reduction (26%), Aseptico DTC / Digital Torque Control (15%), Sybron Endo Quantec ETM (7%), and Tulsa Dental ATR Tecnika. A variety of rotary file systems were used, with ProSystem GT and ProFile GT being the most common. Most facilities were satisfied with their rotary system with most negative comments pertaining to the need to upgrade to a better/newer torque control system. The consumer satisfaction scores were Aseptico DTC (+1.58), Aseptico ITR (+1.25), Tulsa Dental ATR Tecnika (+1.24), and Sybron Endo Quantem EM (+1.10).

Market Share by Company

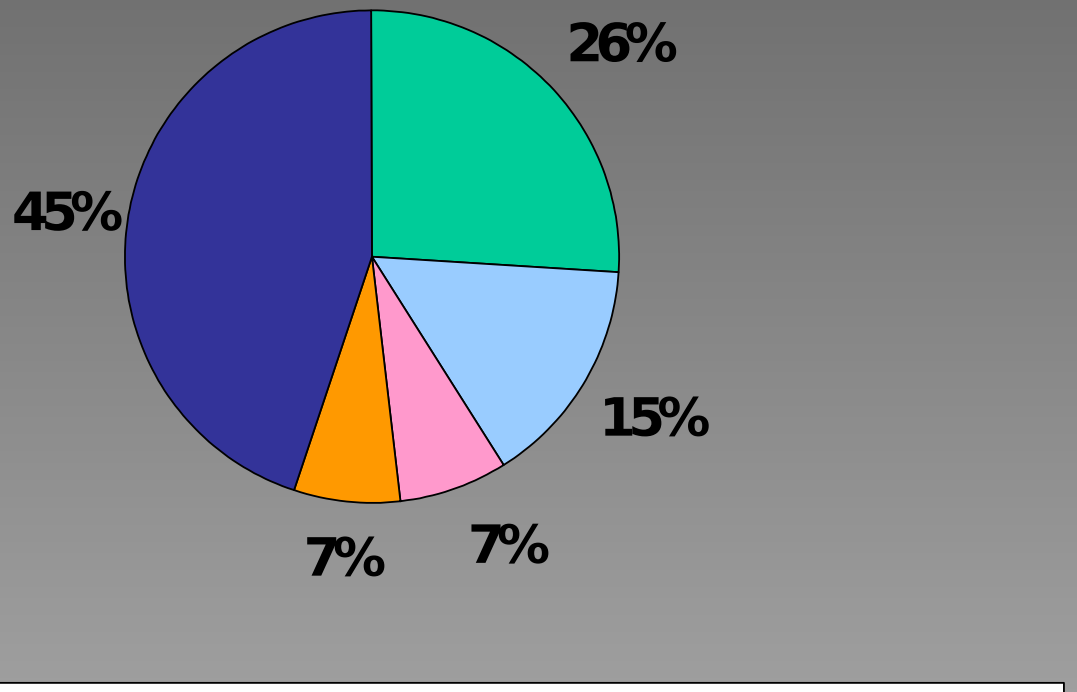
Rotary Endo Handpiece Systems



Source: USAF DECS

Market Share by Model

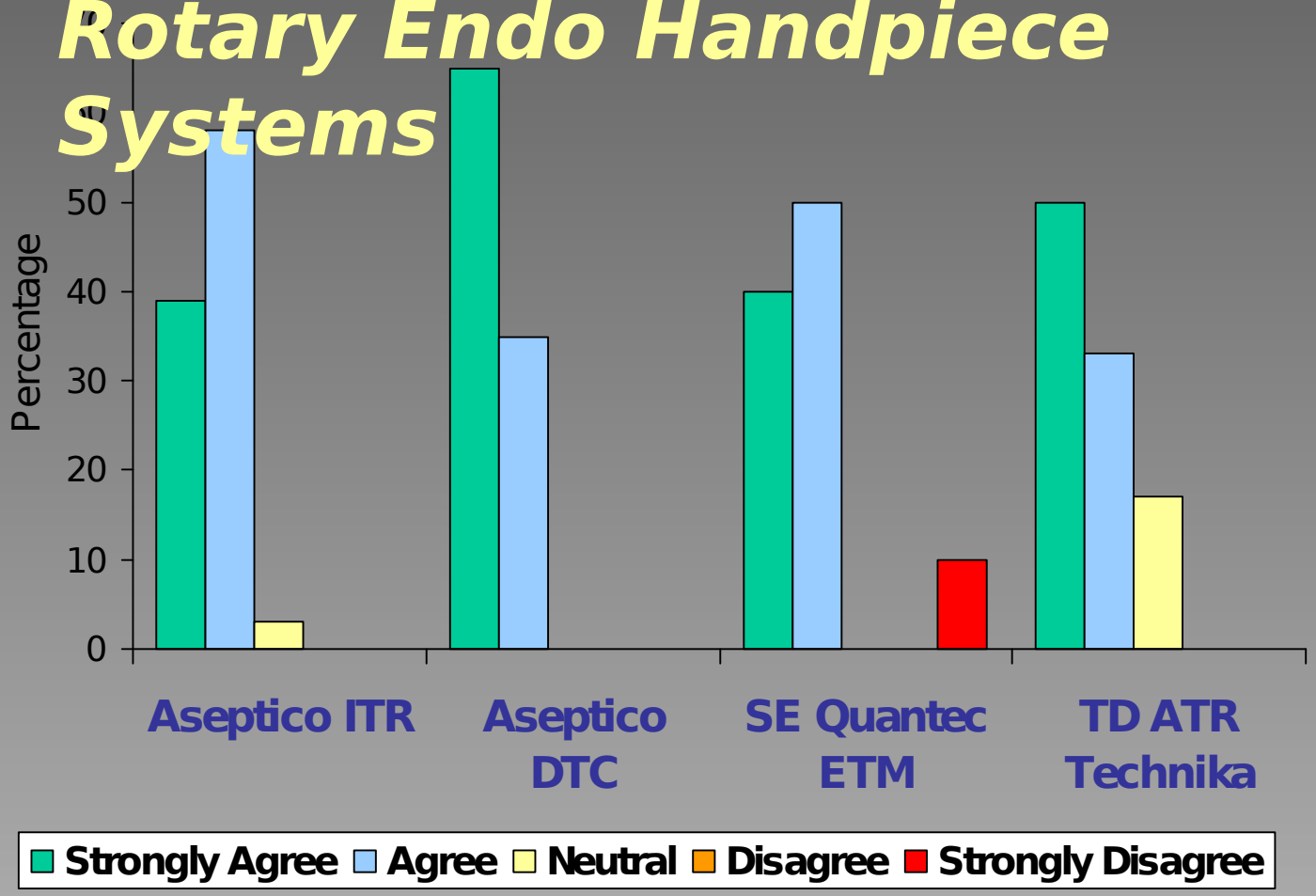
Rotary Endo Handpiece Systems



Source: USAF DECS

Meets User Needs

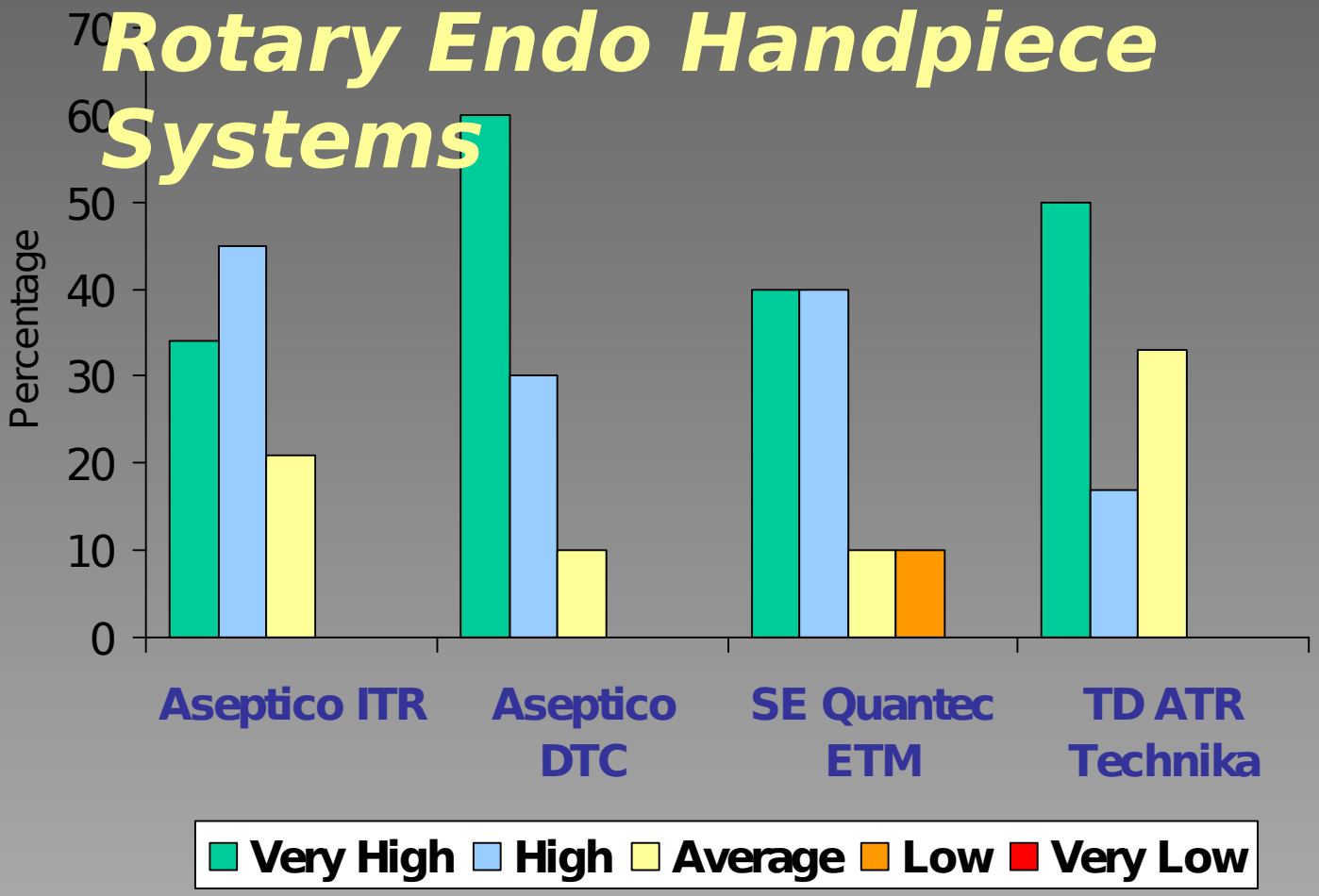
Rotary Endo Handpiece Systems



Source: USAF DECS

User Satisfaction

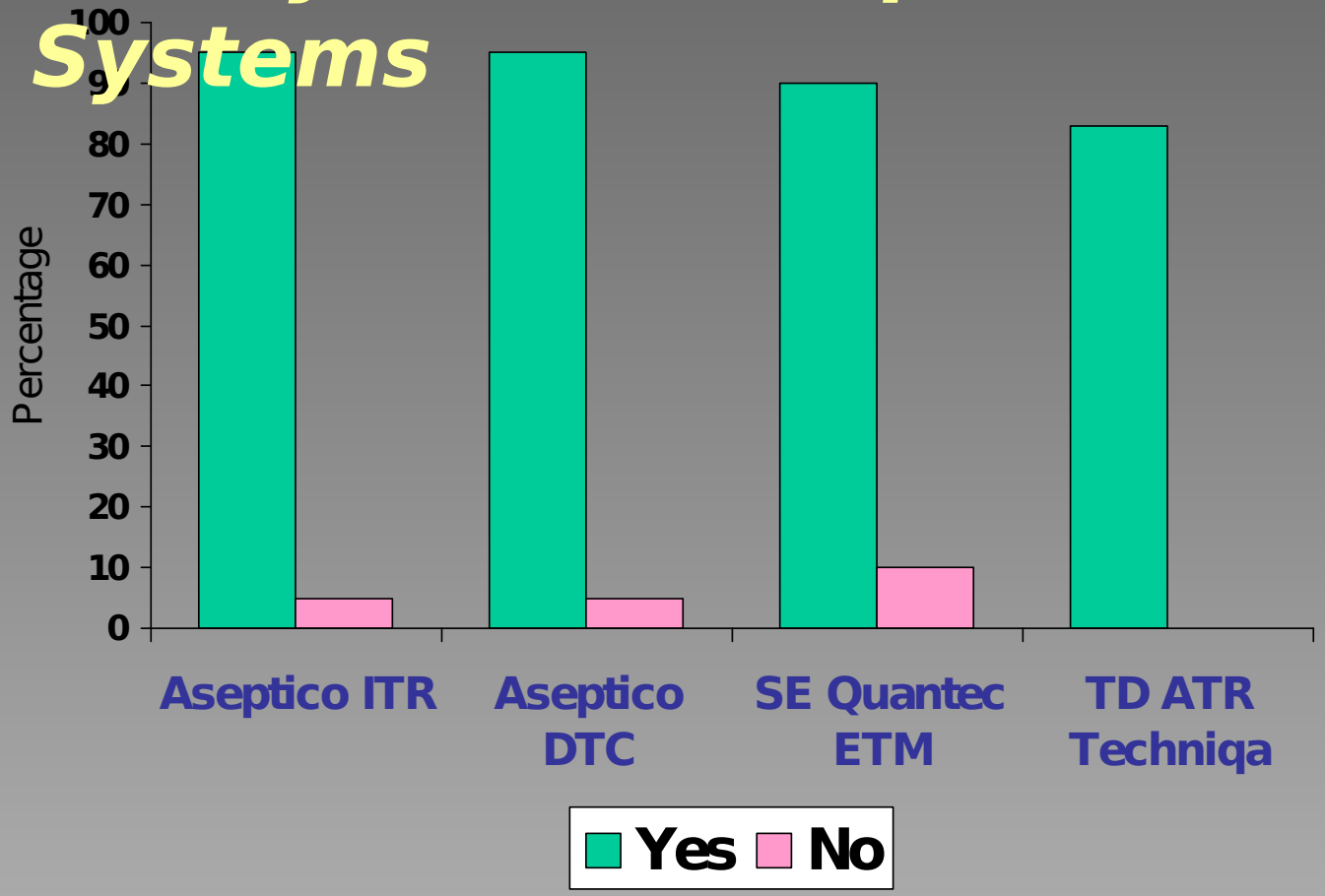
Rotary Endo Handpiece Systems



Source: USAF DECS

Buy Again?

Rotary Endo Handpiece Systems



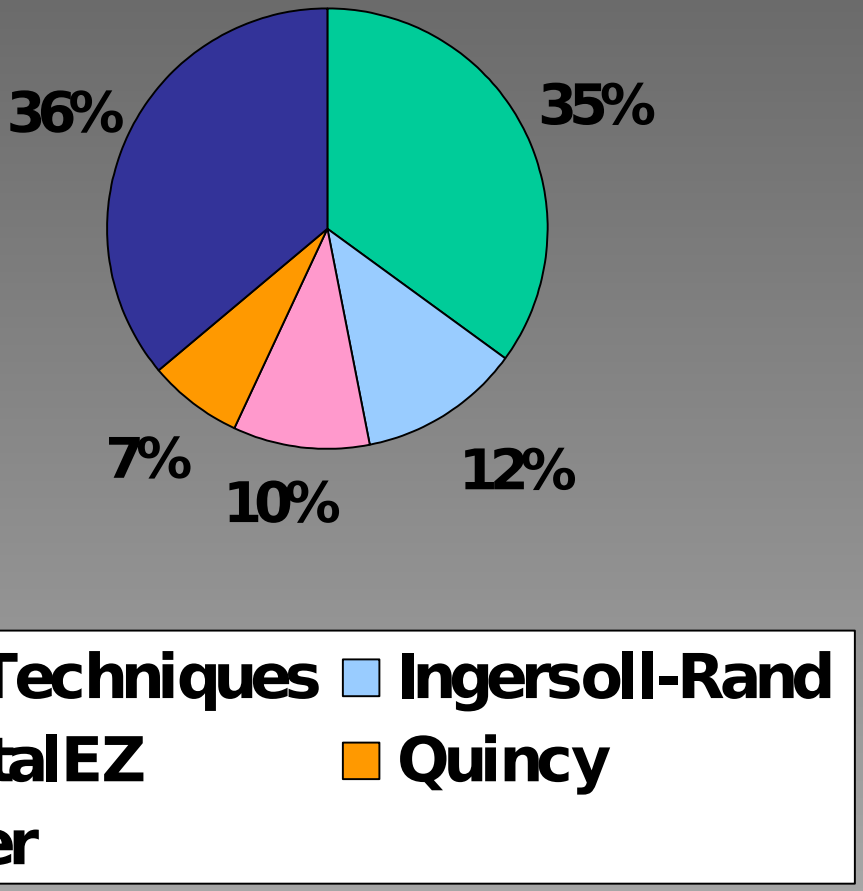
Source: USAF DECS

Dental Compressors

Air Techniques has the largest market share (35%), followed by Ingersoll-Rand (12%), DentalEZ (10%), and Quincy (7%). Market Share by Model was not calculated since differences between a specific manufacturer's models were determined to be primarily one of capacity, with other differences being minor. As a result, calculations for User Satisfaction, Buy Again, Meets User's Needs, and Consumer Satisfaction Scores were based on responses per manufacturer, rather than manufacturer model. Respondents provided very few written comments to help differentiate between manufacturers. The consumer satisfaction scores for compressors were DentalEZ (+1.32), Air Techniques (+1.24), Quincy (+0.89), and Ingersoll-Rand (+0.80).

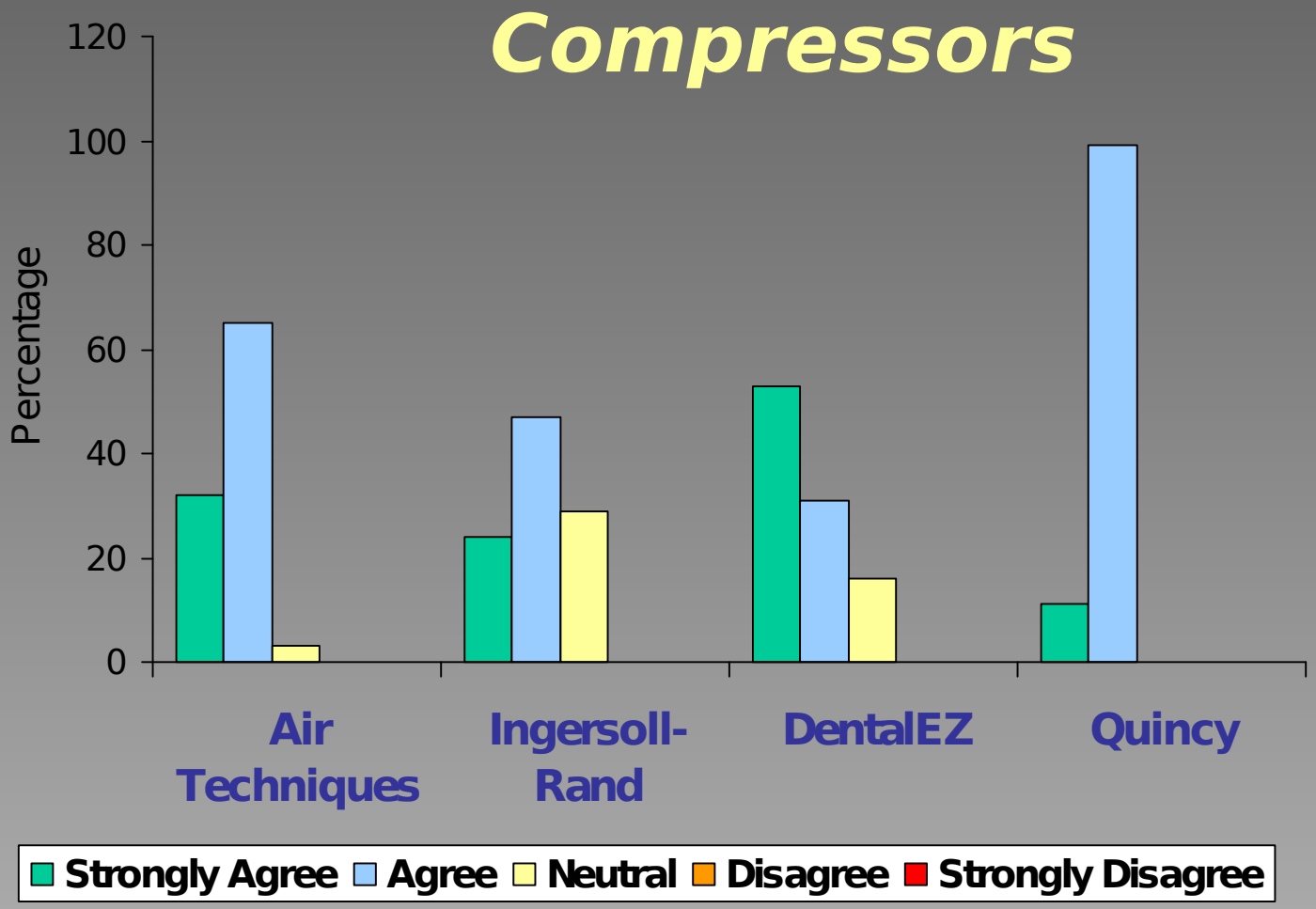
Market Share by Company

Compressors



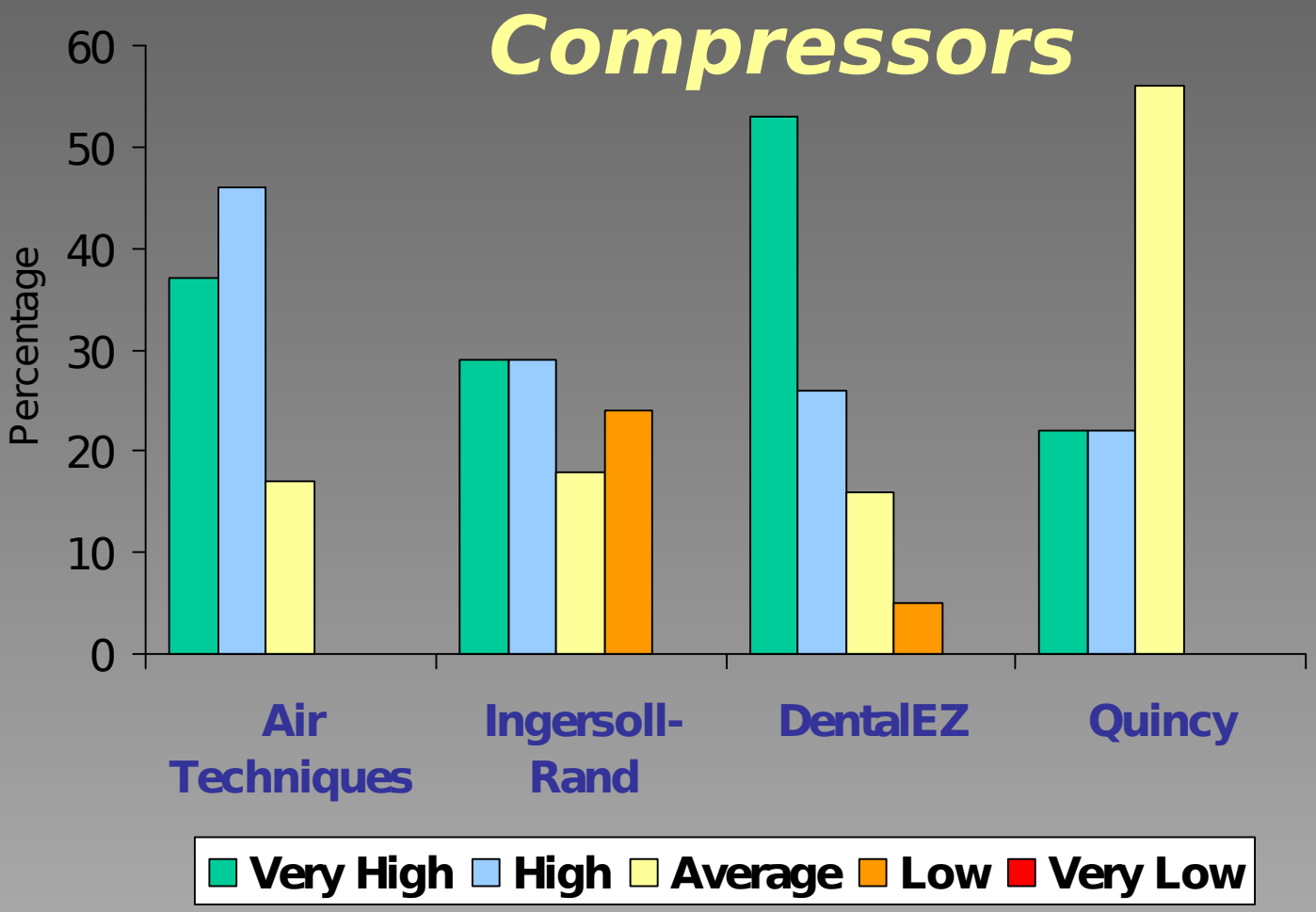
Source: USAF DECS

Meets User Needs



Source: USAF DECS

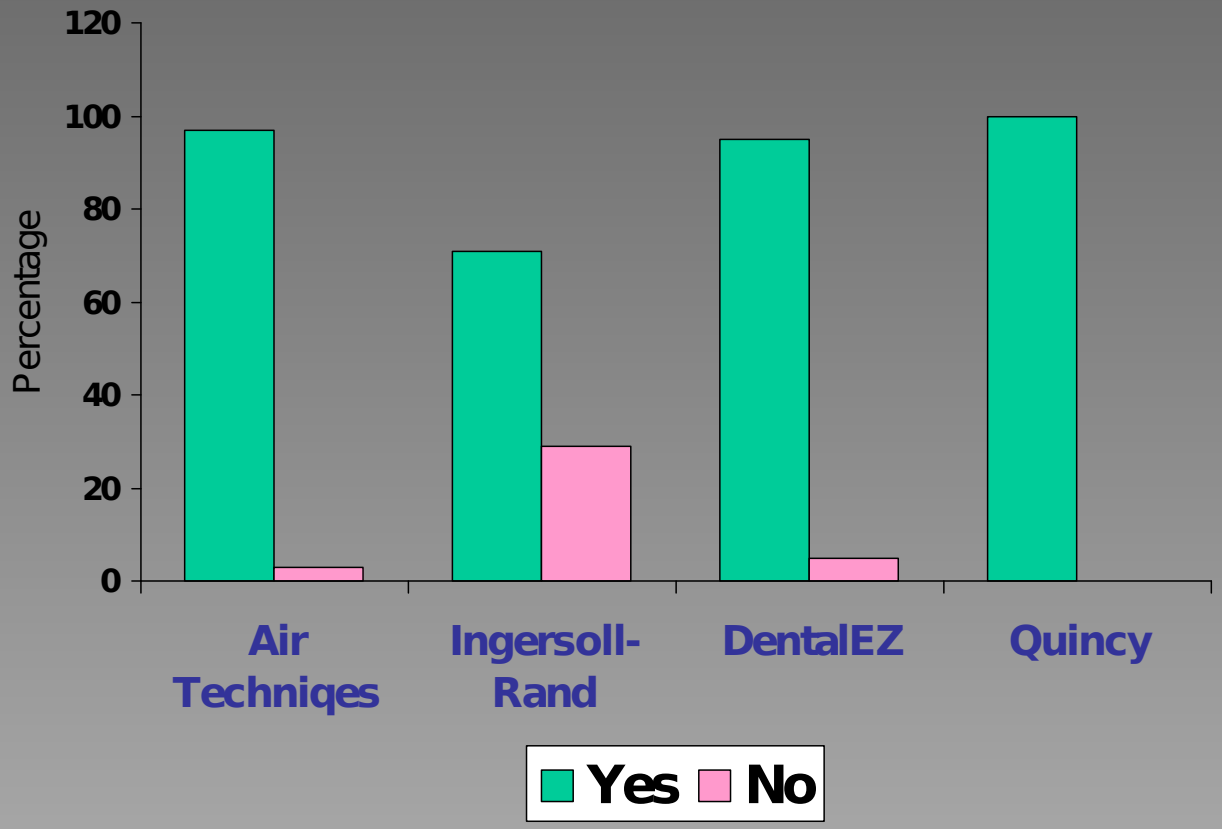
User Satisfaction



Source: USAF DECS

Buy Again?

Compressors



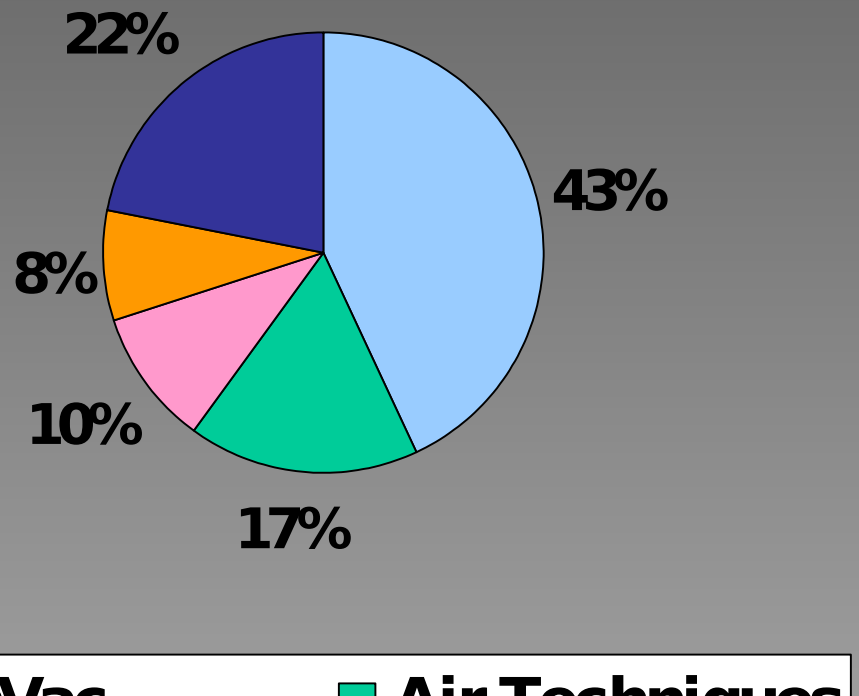
Source: USAF DECS

Vacuum Pumps

Ramvac has the largest market share (43%), followed by Air Techniques (17%), Dental EZ (10%), and Spencer (8%). Market Share by Model was not calculated since differences between a specific manufacturer's models were determined to be primarily one of capacity, with other differences being minor. As a result, calculations for User Satisfaction, Buy Again, Meets User's Needs, and Consumer Satisfaction Scores were based on responses per manufacturer, rather than manufacturer model. Most respondents' written comments on vacuum pumps were positive and pertained to low maintenance and reliability. Ramvac received more positive comments than the others. The consumer satisfaction scores for manufacturers of vacuum pumps were RamVac (+1.12), Dental EZ (+1.12), Air Techniques (+1.09), and Spencer (+1.00).

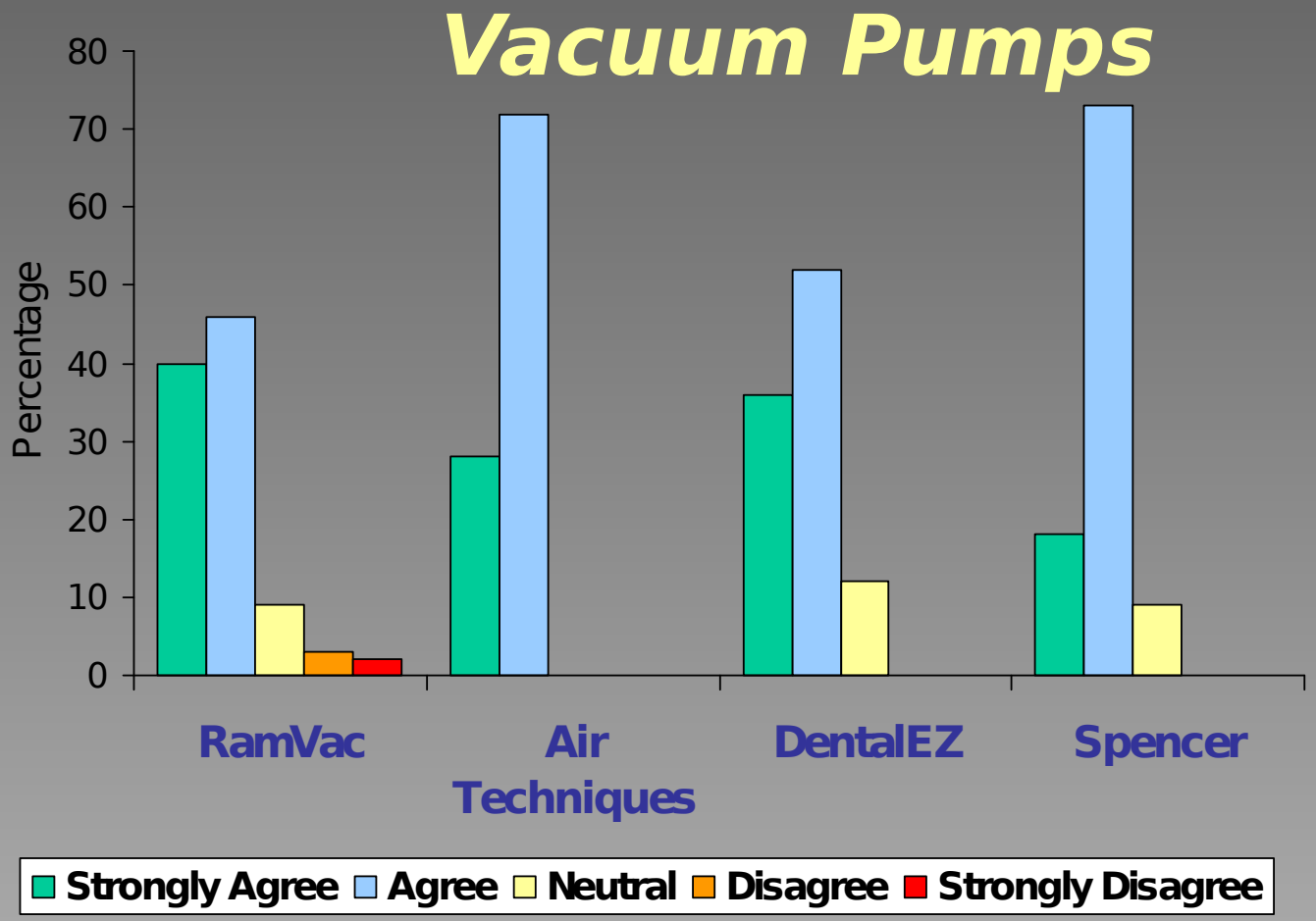
Market Share by Company

Vacuum Pumps



Source: USAF DECS

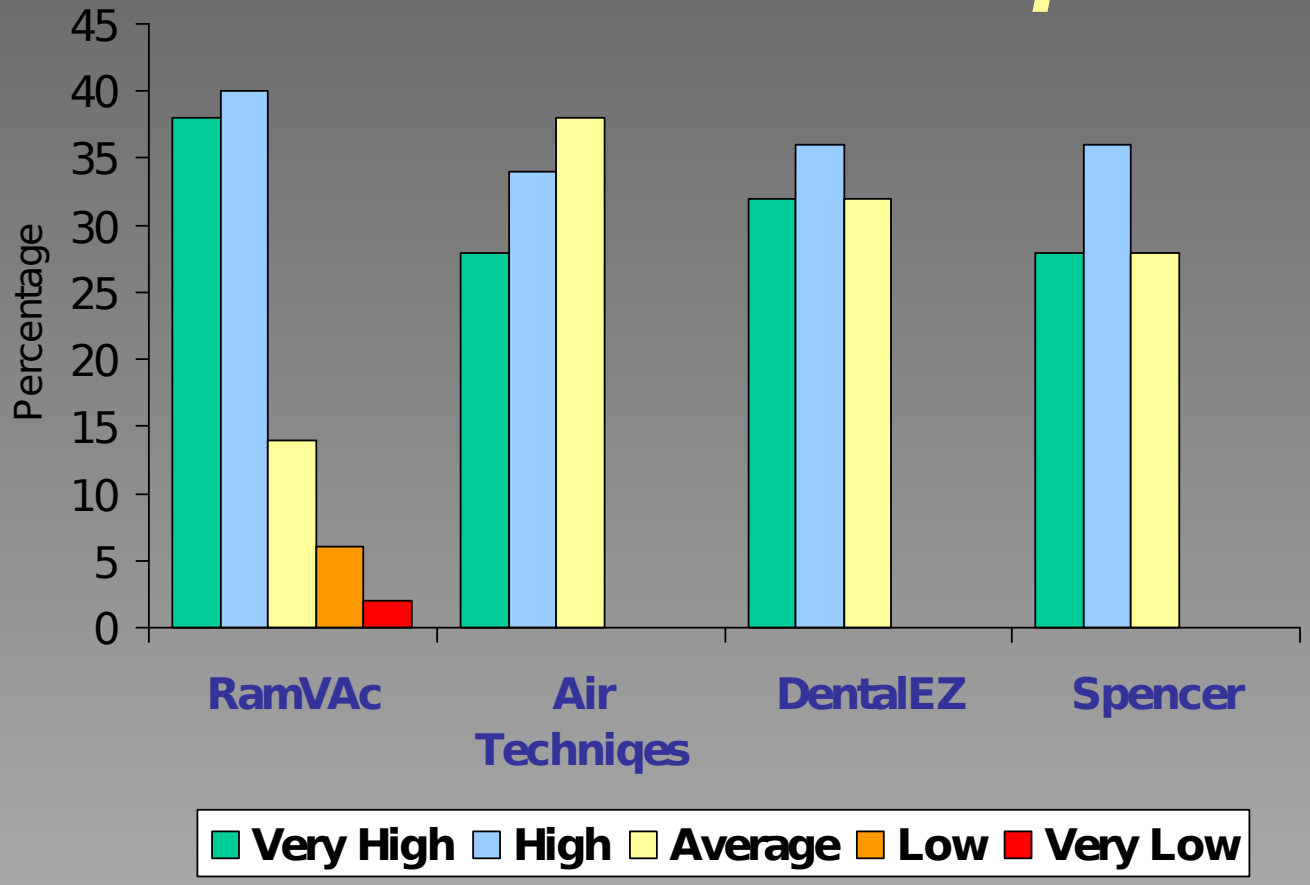
Meets User Needs



Source: USAF DECS

User Satisfaction

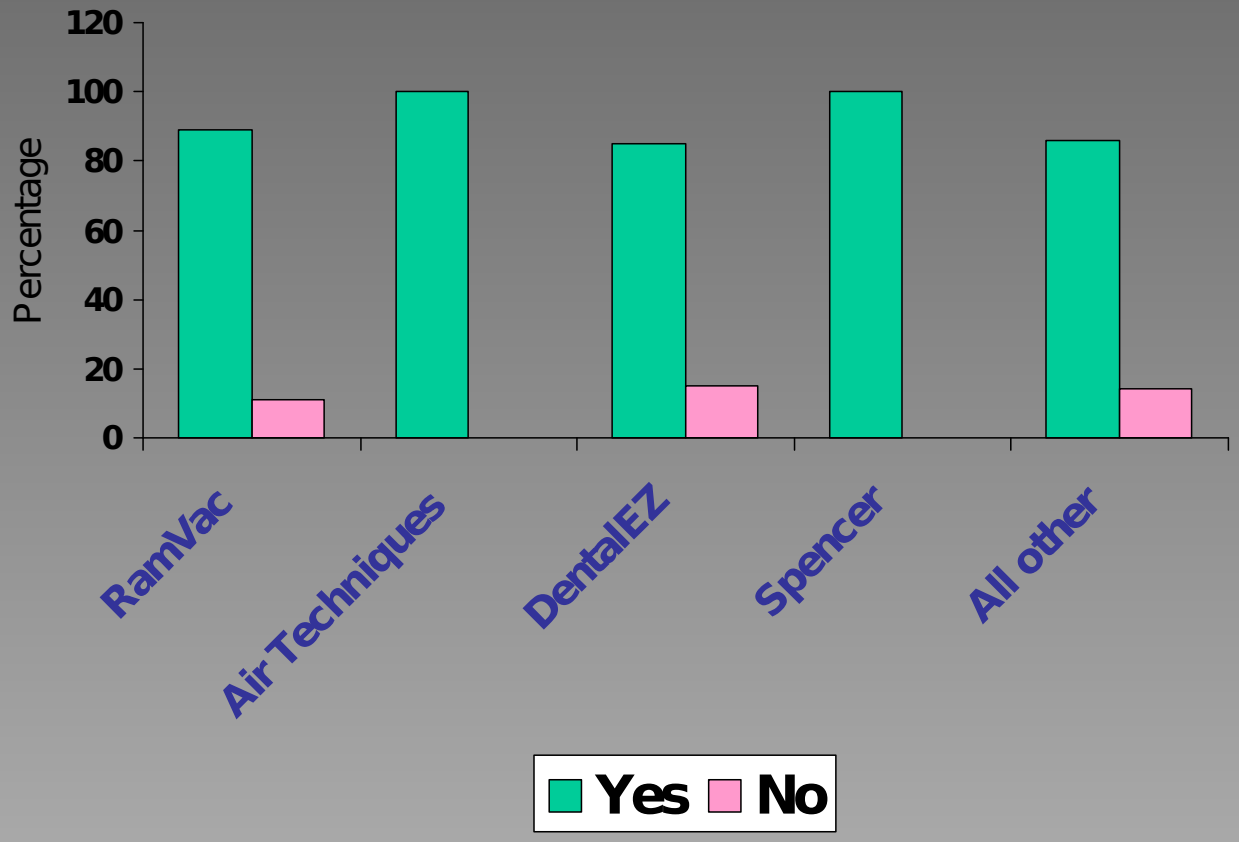
Vacuum Pumps



Source: USAF DECS

Buy Again?

Vacuum Pumps



Source: USAF DECS